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## EOSDIS Core System Project

# ECS COTS Deployment Plan
# Volume 7

July 2002

Raytheon Company
Upper Marlboro, Maryland

# ECS COTS Deployment Plan
# Volume 7

**July 2002**

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# Preface

This document is a contract deliverable with an approval code 2. As such, it does not require formal Government acceptance. Contractor approved changes to this document are handled in accordance with change control requirements described in the ECS Configuration Management Plan. Changes to this document will be made by document change notice (DCN) or by complete revision.

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# Abstract

This is the seventh volume in a series of documents that provide information and details associated with the upgrading of COTS products within the Earth Observing System Data and Information System (EOSDIS) Core System (ECS). This document provides information regarding products that are being upgraded or added, rationale for the upgrade, schedule for upgrade, and the process used to report weekly status. The document also provides information about the reviews and risk mitigation activities performed throughout the upgrade cycle.

***Keywords:*** product, schedule, status, hardware, software, COTS, Solaris, IRIX

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# 1. Introduction

## 1.1 Identification

This document is the ECS COTS Deployment Plan for COTS products being upgraded for the period defined for Volume 7 of this document for the ECS project as defined by Data Item Descriptions (DID) 335/DV1.

## 1.2 Scope

The "ECS COTS Deployment Plan, Volume 7" documents the ECS approach and currently identified plans for upgrading the various COTS packages described in sections 4, 5, 6 and 7 of this document. Volume 7 includes upgrades that occur during the period July 2002 through January 2003. This document will be updated with subsequent volumes that will provide coverage on COTS upgrades in incremental volumes specifying upgrades over a six to nine month time period. The next volume will be Volume 8 and its coverage will begin in January 2002 and will cover end of contract and extension COTS upgrades.

## 1.3 Purpose

The purpose of this plan is to provide the approach and available details related to the upgrading of the COTS products identified for Volume 7. This plan describes the process for identifying, developing, integrating, testing, and shipping all Volume 7 products; including but not limited to, reviewing, monitoring, and providing a status of those products.

## 1.4 Status and Schedule

Volume 7 of this document will be formally delivered in July 2002. Status on the COTS software upgrades identified in this document will be reported on a weekly basis through the COTS Upgrade Team (CUT) Matrix (Refer to Appendix A for recent CUT Matrix) and Hardware migration weekly updates/discussions with appropriate DAAC personnel.

It is essential to understand that as the identification of requirements and risks progresses, some elements of this document may change, e.g., additional products may be identified for upgrade during the period specified herein for Volume 7.

## 1.5 Organization

Section 1 provides information regarding the identification, scope, purpose, objectives and organization of this document.

Section 2 provides a listing of the related documents, which may be used to supplement and provide additional cross-reference information other than that which is contained in this document.

Section 3 provides an overview and introduction of the requirements driving COTS upgrades, such as custom code integration, vendor support policies or COTS product interdependencies. This section provides a summary table of all identified COTS upgrades for the Volume 7 period. The identified COTS products are discussed in more detail in sections 4, 5, 6 and 7.

Sections 4 through 7 discuss COTS software upgrades as groups or categories of products. This breaks down the substantial number of COTS product upgrades that will occur in the period covered by Volume 7 into relevant categories or groups. Table 1-1 describes each section.

***Table 1-1. COTS Software Product Upgrade Categories/Sections***

| Section | COTS Product Upgrade Categories |
|---|---|
| Section 4 | This section focuses on upgrades that will take place in FY02, but before end of contract (10/31/2002). |
| Section 5 | This section provides the COTS that may be part of the Synergy III design. |
| Section 6 | This section provides the COTS that are being considered as upgrades, as some of these may start before January 2003. |

Section 7 provides detail on COTS Hardware Upgrades.

# 2. Related Documents

## 2.1 Parent Documents

Parent documents are documents from which the ECS COTS Deployment Plan scope and content are derived.

| | |
|---|---|
| 334-CD-600 | 6A Science System Release Plan for ECS |
| 334-CD-610 | 6B Science System Release Plan for ECS |
| 335-CD-001 | ECS COTS Deployment Plan, Volume 1 |
| 335-CD-002 | ECS COTS Deployment Plan, Volume 2 |
| 335-CD-003 | ECS COTS Deployment Plan, Volume 3 |
| 335-CD-004 | ECS COTS Deployment Plan, Volume 4 |
| 335-CD-005 | ECS COTS Deployment Plan, Volume 5 |
| 335-CD-006 | ECS COTS Deployment Plan, Volume 6 |
| 423-41-01 | ECS Statement of Work |
| 423-41-02 | Functional and Performance Requirement Specification for the Earth Observing System Data and Information System (EOSDIS) Core System, Revision |

## 2.2 Applicable Documents

The following documents are referenced within this COTS Deployment Plan for Volume 5. Upgrades are directly applicable. Additionally, this document may contain policies or other directives that are binding upon the content of this volume.

| | |
|---|---|
| 409-CD-600 | ECS Overall Acceptance Test Plan for Release 6A |
| 409-CD-610 | ECS Overall Acceptance Test Plan for Release 6B |
| 411-CD-600 | ECS Acceptance Test Procedures for Release 6A |
| SE-1-025 | ECS Project Instruction for the COTS Software Upgrade Process |
| TT-1-001 | ECS Project Instruction for Acceptance Test Preparation, Execution, and Documentation |

## 2.3 Information Documents

The following document(s), although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These document(s) are not binding on the content of this volume.

| | |
|---|---|
| 101-CD-001 | Project Management Plan for the ECS Project |

# 3. COTS Upgrade Overview

## 3.1 COTS Upgrade Process Overview

Volume 7 of DID 335 provides information on upgrades that are scheduled or tentatively planned to be initiated through the period of 07/01/2002 through 01/31/2003. The COTS upgrade information detail that is available at the time of release of this volume is included in the following sections. Additional information and updates are also provided throughout the COTS upgrade process including:

- Weekly update and distribution of COTS Upgrade Team (CUT) Matrix (Refer to Appendix A for recent CUT Matrix)
- Solaris OS Upgrade for Sun Based Machines on the ECS Project documentation
- Weekly discussions with DAACs on hardware issues
- COTS PSRs.

The sections that follow summarize the process by which upgrades to ECS COTS products are identified. The identified COTS products are upgraded and deployed during the 6A System Release time frame. The specific risks mitigated with each COTS product are discussed in the detailed section addressing the specific COTS product.

## 3.2 Mitigating Risks

Various factors are included in identifying COTS products for upgrades, replacements or additions. ECS works to mitigate risks in multiple ways. Defects against a COTS product are identified and tracked in a manner similar to defects with custom code. COTS products also have additional potential risks that need to be considered in reducing scheduling and operational impacts that are inherent to COTS products. The efforts that ECS makes to mitigate both types of risk are discussed in the following sections.

### 3.2.1 Identification of Defect/NCRs

An NCR can be identified against a COTS product as well as against custom code. This process is discussed in ECS Project Instruction SD-1-014 and ECS Work Instruction MO-1-003-5. In many cases, risks related to the COTS product can be mitigated by custom code or configuration changes. There are occasions where risks identified in the NCR process are best mitigated by an upgrade of a COTS product. In some cases, patches are provided by the vendor that will sufficiently mitigate the risk. Other cases may warrant that the risk be mitigated by a versioned upgrade of the COTS product. When an upgrade is identified as the resolution to an NCR, a patch or version upgrade is scheduled as soon as possible. In cases where the NCR is high impact, the COTS product upgrade may be “fast tracked” through the COTS upgrade process.

To mitigate risks that have been identified in the COTS vendor's non-conformance process, patch bundles with fixes for identified problems are taken through the COTS Upgrade Process. Although these patch bundles may have fixes to problems that have not yet occurred in the ECS project, these bundles may also include "fixes" to items that have potential risk to occur within the ECS project environment. Unless a specific problem and a specific patch are identified to resolve an NCR, these patches are bundled for an upgrade to specific COTS products on a periodic basis. These patch bundle upgrades are usually limited to COTS with substantial impact such as operating systems and databases.

### 3.2.2 Vendor Support

Although some terms and concepts differ, support for the full life cycle has been implemented for both COTS software and hardware products in the ECS Project. A significant part of this concept is maintenance support for these COTS products. The process for renewing and funding software maintenance agreements is discussed in ECS Project Instruction IL-1-006. The discussion of "support" in this document refers to the technical support provided by the vendor under the ECS maintenance contract with the vendor, not the payment for the maintenance support.

#### 3.2.2.1 COTS Software Support

Software support agreements for most COTS vendors include consultation, problem assistance, patches and upgrades. In any COTS product life cycle, there are points at which a product may be "supported" at a different level. This support level is usually identified by the COTS product having reached one of the following milestones in the COTS product life cycle:

- Specific version is identified by the vendor to have reached end-of-life.
- Specific version is identified by the vendor to have reached end-of-support.
- Product is merged/evolved to another product or is made obsolete.

Many large vendors have formulated very specific policies on these milestones and when they occur. Some of these are published on the vendor's web site. Others will provide the criteria for these milestones, upon request. Other vendors have not defined a policy as would be preferred, but generally these are not COTS products with major impact for ECS.

Reaching any of these milestones has the potential to cause some level of risk to the project. To mitigate these risks, these milestones are tracked in the COTS Compatibility Matrix[1] and are updated on a quarterly basis. An overview of each of these milestones and their potential impact is provided in the following sections to serve as a reference for the upgrade discussions in Sections 4 through 7. The CUT reviews these milestones for every COTS software product when identifying the upgrades for each rolling wave period.

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[1] An example of some of the compatibility information maintained in the COTS Compatibility Database is provided in Appendix B.

#### 3.2.2.2 COTS Software Product End-of-Life: Best Effort Support

COTS products are under active support for a period after release. The end-of-life policy among vendors differs considerably. The most common practice is to provide support for a specified number of older versions. The larger vendors with this type of support policy often support the most current version and the last two preceding it. Some vendors support only one preceding version from the most current version; while others actively support only the most current version.

It is important to note that when a COTS product reaches end-of-life, the product is "supported" by the vendor, but at a lower level than the products/versions the individual vendor considers "current". While there is some level of support for the end-of-life version, there are typically no bug fixes or new code written for the end-of-life versions if the "problem" has been fixed in a more recent version.

This lower level of support is often called "best effort": i.e., the vendor will make the best effort to address the problem without writing new code. If the problem that needs to be fixed has already been fixed in a later version, the "support" the vendor provides is to recommend an upgrade to the more "current" version. The longer the COTS product remains at end-of-life, the more likely that an upgrade will be recommended to fix the identified problem.

Some levels of end-of-life risk can be tolerated and, in the case of COTS vendors that have a very rapid end-of-life cycle, some risk may be prudently tolerated. The CUT team reviews the risk and the possible impacts when identifying the COTS upgrades for each rolling wave and mitigates the highest levels of risk possible with the COTS selected for upgrade.

#### 3.2.2.3 COTS Software Product End-of-Support

Many COTS vendors identify an end-of-support date for versions of their COTS products. In some cases, often with the major operating system vendors, this occurs *x* number of years after the end-of-life date. Other COTS vendors, such as Sybase, usually give notice a year in advance, of when end-of-support will occur with a product version. In this case, there is no end-of-life phase, as the product will be actively supported until its support formally ends.

There are some vendors who do not have a defined end-of-support date, but the ability to obtain active support for resolution of problems with older versions decreases over time. There is greater risk that there will not be timely and effective resolution of problems that require "bug" fixes. The risk generally increases over time.

#### 3.2.2.4 COTS Software Product Evolution or Obsolescence

There can be product consolidations and/or selling specific products that no longer adhere to a vendor's product line. There have been a number of mergers among COTS product vendors in recent years that have also led to COTS software evolution or obsolescence.

COTS products are tracked to identify and mitigate risks that may be associated with any of the following:

- No new development done for a specific COTS product.

- Stand-alone product merged with other products that will no longer be available as a separate product.
- Product sold to a new vendor.

Some COTS products may have end-of-support risks associated not with a specific version, but with dependencies on other versions/models of COTS products, that are a variation on end-of-support dates for the primary COTS product. These risks are associated with cross product software compatibility and are discussed in more detail in the following section.

### 3.2.3 Cross Product Software Compatibility

In addition to the risks that may be associated with end-of-life and end-of-support dates for specific COTS products, risks associated with cross-product dependencies and compatibility are tracked to identify risk and risk mitigation steps. When upgrades are identified for any COTS product, a cross-product versioning support compatibility analysis is performed to identify any risks to the upgrade. The CUT team provides input on methods that may be considered to mitigate the identified risks. A consensus is reached on the most efficient method of mitigating the risk, balancing risk levels and available resources. The primary cross product compatibilities are discussed in the following sections and include:

- Operating System Version Compatibility
- Database Version Compatibility
- Compiler Version Compatibility
- Other COTS Product Compatibility
- Hardware/Software Product Compatibility

#### 3.2.3.1 Operating System Version Compatibility

All COTS software is dependent on operating system (OS) versioning compatibility. COTS vendors identify the operating system versions that specific COTS product versions will support. In general, COTS vendors support the versions actively supported by the OS vendor and drop support for OS versions which have reached end-of-life or are near to end-of-life. Adding new OS versions and dropping end-of-life OS versions for a specific COTS product usually occur in a six month to eighteen month cycle, depending on the timing of the release of the new COTS product version.

Occasionally, a COTS vendor will announce that no new development/version is planned for one or more of the operating system platforms that are utilized for the COTS product. The CUT team identifies these risks and works to mitigate these risks in some of the following ways:

- Discussion with the vendor of the impacted COTS product.
- Discussion with the Operating System Vendor on the withdrawal of support for a specific OS.

- Identification of possible alternative operating system hosting.
- Identification of alternative COTS/Freeware product implementation.

The COTS Hardware/Software compatibilities are discussed in section 0.

#### 3.2.3.2 Database Version Dependencies

A number of COTS products in ECS are dependent on a Sybase database version. It is typical that although Sybase may actively support several Sybase ASE and OpenClient versions at the same time, a COTS product might be certified for only one or perhaps two Sybase/OpenClient versions. In some cases, the vendor has not formally certified a specific Sybase version, but the vendor will support resolving problems with some other versions and/or report that customers are using a version and report no problems. On occasion, there are identifiable incompatibilities between a COTS product version and a Sybase database version. The CUT team identifies these potential risks and works to mitigate them. These may include:

- Identification of the actual level of risk (vendor information/EDF testing, etc.).
- Identification of COTS product upgrade that is certified or capable of supporting compatibility with the identified baselined (or to be baselined) version.
- Identification of alternative implementation (i.e., different operating system, script, etc.).

#### 3.2.3.3 Compiler version compatibility

Some COTS products are certified with a compiler version for a specific OS. The level of support will be most complete if the certified compiler version is in use. Generally, only a single compiler version is certified for a specific OS version. The CUT team reviews upgrades to mitigate any identified risks associated with compiler version dependencies.

#### 3.2.3.4 Other Compatibility Issues

The CUT team also identifies other potential risk factors associated with COTS products, including the following:

- Compatibility between related COTS products versions. For example, the RogueWave DBTools, Tools and ToolsPro products require compatible versions between the 3 libraries and also require compatible versions (same versions) across all OS platforms.
- Some COTS products have some dependencies on Motif versions and/or HDF versions.

#### 3.2.3.5 Hardware/Software Compatibility

Hardware/software compatibility issues are identified and reviewed for risk and risk mitigation, including the following:

- Support for all planned and existing hardware devices will be available at the time of hardware upgrades.
- Hardware firmware is currently supported.

### 3.2.4 Features/Performance Upgrades

Some COTS upgrades are identified to address performance and/or new features/benefits. Functional and Performance specification requirements (F&PRS) are provided for the upgrades discussed in this document, when there is a change or impact to the current requirements met by the COTS products.

#### 3.2.4.1 Performance

If performance risks are identified, the CUT team works to identify the necessary COTS upgrades/replacements or configuration changes to address the performance issues.

#### 3.2.4.2 Features

If specific new features are required by ECS Development Organization or operational sites for a COTS product and/or the project, the CUT team reviews the requirements and identifies a COTS upgrade to provide the required features.

#### 3.2.4.3 Hardware Support

As part of the COTS Life Cycle Implementation, ECS provides maintenance for hardware products deployed to the DAACs. Firmware maintenance is included with hardware maintenance support. Hardware maintenance for failed components is addressed with individual Maintenance Work Orders (MWO).

Hardware and firmware products can reach end-of-life and/or end-of-support, just as software products may reach this stage. Replacement or upgrade support for hardware components as a class or individually is not covered by standard industry hardware maintenance contracts. Hardware replacements and upgrades generally require procurement of new or additional components.

Risk for some hardware components that have reached end-of-life can be or are mitigated by availability of a pool of hardware components in case replacement is necessary prior to a planned hardware upgrade.

In some cases, a hardware vendor may identify that equipment will no longer be supported after a certain date. In cases where there are other hardware, software and/or firmware dependencies that cause risks for the ECS Project, a migration or replacement to supported hardware devices are required to mitigate risks.

## 3.3 COTS Upgrade Summary

Table 3-1 provides a summary of the planned COTS hardware and software upgrades and identifies any dependencies in these upgrades. Estimated completion schedules are also provided.

***Table 3-1. COTS Hardware/Software Upgrades Summary (1 of 2)***

| COTS Product | Baseline Version | Upgrade Version | Dependencies/Installation Sequence Requirements | Criticality for Operational Support | NCR | Targeted Completion |
|---|---|---|---|---|---|---|
| DDTS | 4.1 | 4.7 | None | Low | | 07/02/2002 |
| Apache Web Server | 1.3.22 | 1.3.26 | None | Low | 34621 | 07/19/2002 |
| External Subsetter Host Installation | N/A | N/A | None | Low | | 07/21/2002 |
| Initial SAN Installation for NSIDC | N/A | N/A | None | Low | | 07/26/2002 |
| ASTER Ingest Tape Drive | N/A | N/A | None | Low | | 07/31/2002 |
| BDSpro/HiPPI | 2.1p0/3.3.1 | 2.4/4.0 | None | Low | | 07/31/2002 |
| SANtricity | 7.10.GG.02 | SANtricity 8.00.G2.01 | DT178 RAID Hardware | Medium | | 07/31/2002 |
| Synergy III Hardware Upgrades | N/A | N/A | None | Low | | 7/31/2002 |
| SAN upgrade at EDC and NSIDC. | N/A | N/A | None | Low | | 08/05/2002 |
| Npassword | Anlpassword 2.3 | Npassword 2.05 | None | Low | | 08/06/2002 |
| Volume Manager | 3.0.4 | 3.2 | Subsetting Hardware | High | | 08/08/2002 |
| jConnect | 5.2 | 5.5 | ASE 12.5 comp. | Medium | | 09/06/2002 |
| SQS | 3.2.2 | 3.4.2.4 | ASE 12.5 | Medium | | 09/15/2002 |
| Autosys 3.5 Patches & ASE 12.0 | 3.5 | 3.5 w/ASE 12.0 patches | None | Low | | 09/23/2002 |
| Tivoli Upgrade for ASE 12.5 | 3.6.3 | MF 3.7.1 | Tivoli Management Framework 3.7.1 | Low | | 09/23/2002 |
| ClearCase | 4.1 | 5.0 | None | Low | | 09/26/2002 |
| Netscape Communicator | 4.78 | 7.0 | None | Low | | 10/01/2002 |
| WhatsUp Gold | n/a | 7.02 | None | Low | | 10/08/2002 |

*Table 3-1. COTS Hardware/Software Upgrades Summary (2 of 2)*

| COTS Product | Baseline Version | Upgrade Version | Dependencies/Installation Sequence Requirements | Criticality for Operational Support | NCR | Targeted Completion |
|---|---|---|---|---|---|---|
| Brio (SQR) | 4.3.4 | 6.2 | ASE 12.5 | Low | | 10/14/2002 |
| Sybase ASE | 11.9.2/11.9.3 | 12.5 | Refer to section 4.1 | High | | 10/23/2002 |
| Sybase Replication Server | 11.5.1 | 12.5 | None | Medium | | 10/23/2002 |
| Sybase Central | 3.0 | 4.0 | ASE 12.5 comp. | Low | | 10/31/2002 |
| Sendmail | Solaris 8 bundled version | Commercial version 1.2.2 | None | Medium | | 11/18/2002 |
| Synergy COTS Software Upgrades | JDOM 0.7 | JDOM 0.8 | Synergy III Custom Code delivery (refer to section 6) | High | | 11/30/2002 |
| Future COTS Upgrades | Per Product | Per Product | Per product dependencies and schedules provided in section 0, 6. Future COTS Upgrades Table 6-1. | Various | | 01/01/2003 and later |

# 4. 2002 COTS Upgrades

This section identifies the COTS software products that are planned to be upgraded by October 31, 2002, the end of the ECS contract. The COTS products planned for after this period are discussed in section 6. Table 4-1 provides a summary if the COTS upgrades planned for delivery by 12/31/2002.

***Table 4-1. FY 02 COTS Upgrade Summary***

| COTS Product | Current Baseline Version | Planned Upgrade Version |
|---|---|---|
| Autosys 3.5 Patches | 3.5 | 3.5 w/ASE 12.0 patches |
| BDSpro/HiPPI | 2.1p0/3.3.1 | 2.4/4.0 |
| Brio (SQR) | 4.3.4 | 6.2 |
| ClearCase | 4.1 | 5.0 |
| DDTS | 4.1 | 4.7 |
| jConnect | 5.2 | 5.5 |
| Netscape Communicator | 4.78 | 7.0 |
| Npassword | Anlpassword 2.3 | Npassword 2.05 |
| SANtricity | 7.10.GG.02 | SANtricity 8.00.G2.01 |
| Sendmail | Solaris 8 bundled version | Commercial version 1.2.2 |
| SQS | 3.2.2 | 3.4.2.4 |
| Sybase ASE | 11.9.2/11.9.3 | 12.5/12.0 |
| Sybase Central | 3.0 | 4.0 |
| Sybase Replication Server | 11.5.1 | 12.5 |
| Tivoli Upgrade for ASE 12.5 | 3.6.3 | Management Framework 3.7.1 |
| Volume Manager | 3.0.4 | 3.2 |
| WhatsUp Gold | n/a | 7.03 |

## 4.1 Sybase ASE 12.5.01/12.0.0.5

### 4.1.1 Description of COTS

Sybase Adaptive Server Enterprise is a multi-user relational database management system (RDBMS) which:

- provides management services

- provides control of, and information about a relational database for concurrent users
- passes information from client to server and vice versa across the network using Open Client as the standard Application Programming Interface (API)
- provides asynchronous prefetch, auditing and dbcc enhancements, point in time recovery and extended stored procedures.

### 4.1.2 Rationale for Upgrade

End of support dates announced by Sybase are the primary upgrade drivers. Sybase ASE 12.5 will be used for all servers except for the Autosys Server implementation.

Autosys Server 3.5 does not support Sybase 12.5, but is certified with patches discussed in Section 0, 4.4 Autosys 3.5 Patches for Sybase ASE 12.0 , for Sybase ASE 12.0. ASE 12.0 will be delivered for the Autosys Server implementation. Sybase recommends additional Solaris 8 patches for the 12.0 delivery. Testing and delivery will include the additional Solaris 8 patches.

#### 4.1.2.1 Vendor Support

End of support for 11.9.3 on SGI was identified as occurring on 12/31/2001, but has been extended until 06/30/2002 as of December 2001. End of Support for 11.9.2 on Sun is identified as occurring on 03/31/2002.

Sybase has agreed to provide ECS extended support until 12/31/2002 based on our current documented upgrade plans.

The deliveries will include the following EFBs (Emergency Bug Fixes):

- EBF10235 for ASE 12.5.0.1 for IRIX
- EBF10245 for ASE 12.5.0.1 for Solaris 8
- Release 12.0.0.5 will be used for ASE for Autosys Server

#### 4.1.2.2 NCRs

No NCRs are identified in association with versions 11.9.2 and 11.9.3 of the COTS product.

#### 4.1.2.3 Features/Performance Upgrades

Table 4-2 provides the new features to be delivered with Sybase ASE 12.0.0.5

***Table 4-2. Sybase ASE 12.0 New Features***

| Availability and Manageability Features | Distributed Processing Features | Security Features |
|---|---|---|
| Rebuilding Indexes | Distributed Transaction Management | Network Security |
| High Performance Backup and Restore | Enhancements to Component | User-Defined Login Security |
| UNIX File System Support | Integration Services (CIS) | Concrete Identification |
| Modifying an Existing Table's Schema with alter table | | |
| Suspending Database Updates with quiesce database | | |
| Taking Adaptive Server Engines Offline | | |
| User Settable Process Information | | |
| Identity Number Gap for Tables | | |
| Diagnostic Database | | |
| Performance and Productivity | | |
| Java in Adaptive Server Enterprise | | |
| Number of Tables in a Query | | |
| Query Processing and Optimization Enhancements | | |
| ANSI Joins | | |
| Dynamic Execution of Transact-SQL | | |
| text and image Datatype Enhancements | | |
| Disabling Triggers | | |
| Cache Partitions | | |
| Abstract Plans | | |
| Non-Rewinding Tapes | | |

Sybase ASE 12.5.01 will include Sybase ASE 12.0 features identified above plus the ASE 12.5 features identified in Table 4-3.

*Table 4-3. Sybase ASE 12.5 Features*

| Productivity for the Internet | Directory & Security Features | Administration and Quality of Service |
|---|---|---|
| XML Queries | Row-Level Access Control | Dynamic Reconfiguration Features |
| Enterprise Java Beans | Secure Sockets Layer | Quiese DB |
| SQLJ (including Java Stored | LDAP Support Administration & Quality of Service | Compressed Backup |
| Procedures) | | |
| Java Infrastructure | | |
| Enhancements | | |
| Expanded page, row and char | | |
| column sizes | | |
| Below is a partial list of these | | |
| new limits: | | |
| Union-in-views | | |
| Unicode (UTF-16) | | |
| Component Integration Services Enhancements | | |
| Support for External File Systems | | |

Sybase is providing additional optional utilities for Sybase ASE 12.5.0.1 and above. Although there are no current plans to implement any of these utilities, these options are available to be added to the Sybase ASE 12.5.0.1 version that is being delivered. Table 4-4 provides a list of these optional utilities.

*Table 4-4. Sybase ASE 12.5.01 Additional Optional Utilities*

| Optional Utilities for Sybase ASE 12.5.01 | Summary Description |
|---|---|
| Content Management Edition | Semi-structured and unstructured-data management. |
| Data Transfer Management (DTM) | Enhance Full Text Search (EFTS) |
| e-business Edition | Data-storage, access, replication, and security via an e-business platform. |
| High Availability Edition | Systems continuously available |
| Security and Directory Services Edition | Systems continuously available with fault resilience. |
| XML Management Edition | Semi-structured and unstructured-data handling. |

### 4.1.2.4 Cross Software Product Compatibility

Table 4-5 identifies compatibility with COTS products having Sybase ASE dependencies.

***Table 4-5. COTS with Sybase ASE 12.0/12.5 Dependencies***

| COTS Product | Deployed as Status | COTS Baseline Product Version | Sybase ASE Compatibility |
|---|---|---|---|
| Autosys Server | OPS | 3.5 | Autosys 3.5 supports Sybase ASE 12.0 with patches. Refer to sections 0, 4.4 Autosys 3.5 Patches for Sybase ASE 12.0 Support for additional information. |
| SourcePro DB (formerly DBTools.h++/CT.lib) | DEV | 5.0.2 | Custom code development supports OpenClient 12.0, which is compatible with ASE 11.9.2, 11.9.3, 12.0 and 12.5. |
| IRIX | OPS | 6.5.14m | Supports ASE 11.9.3; 12.5 |
| jConnect for SGI/Sun | OPS | 5.5 | Upgrade planned to jConnect 5.5, which will support ASE 11.5.1 through ASE 12.5. jConnect 5.5 required for ASE 12.5 compatibility. |
| Remedy ARS Server | OPS | 4.5.2 | Supports ASE 11.9.2, 12.0 and 12.5 |
| Solaris 8 | OPS | 2.8 | Supports Sybase ASE 11.9.2, 12.0 & 12.5 |
| SQR (BRIO report) | OPS | 6.2 | Open Client is Interface: Supports OpenClient 12 (on 2.6, 2.7 & 2.8) & Open Client 12.5 on Solaris 8 only). Open Client versions 12.0 and 12.5 are compatible with both ASE 12.0 and 12.5. |
| SQS (Spatial Query Server) | OPS | 3.4.2.4 | Open Client is Interface to ASE. Version to be delivered bundled with OpenClient 12.5. ASE 12.5 must be installed prior to installation of SQS 3.4.2.4. |
| Sybase Central | OPS | 4.0 | Compatible with Sybase ASE 11.9.2 through 12.5 |
| Sybase Open Client/C for SGI | OPS | 12.0.0 | Open Client 12.0 is compatible with 11.5.1 through 12.5/ASE 11.9.2 through 12.x |
| Sybase Open Client/C for Sun | OPS | 12.0.0 | Open Client 12.0 compatible with 11.5.1 through 12.5/ASE 11.9.2 through 12.x |
| Sybase Replication Server | OPS | 12.5 | Supports ASE 11.9.2, 11.9.3, 12; 12.5 |
| Tivoli | OPS | Management Framework 3.7.1 | Supports Sybase ASE 11.9.2, 12.0, and 12.5<br>(Only Management Framework has Sybase Dependencies) |

### 4.1.2.5 Operating System Compatibility

Version planned for upgrade is compatible with Solaris 8 and IRIX 6.5.14. These will be the Operating System versions at the time of the upgrade. Sybase ASE 12 and 12.5 are not supported on Solaris 2.5.1. Sybase has identified additional Solaris 8 patches (an analysis was performed to identify those patches in not in the current Solaris 8 patch baseline). These include:

- 109137-01 Package Install
- 109951-01 jserver buffer overflow
- 103346-28 flashprom update
- 108827-25 /usr/lib/libthread.so1 patch

These will be included with the delivery of ASE 12.0.0.5.

#### 4.1.2.6 Hardware Product Compatibility

Sybase certifies Sybase ASE 11.9.2, 12.0 and 12.5 only on Ultra-based SPARC chips. All non-Ultra-based SPARC chip machines are being removed in the Solaris 8 transition.

### 4.1.3 Operational Impact

Other than the downtime identified in the PSR for the upgrade, there are no identified operational impacts associated with this product upgrade. Upgrade occurring after the Solaris 8 Transition will reduce operational impact at the critical Solaris 8 transition stage.

### 4.1.4 Custom Code Impact

Some custom code impacts have been identified and resolved. Regression testing will be performed to validate custom code changes.

### 4.1.5 Security Impact

Additional security features will be included in this version.

### 4.1.6 Licensing Impact

There are no licensing issues with this software. License keys are required and will be discussed in the PSR document.

### 4.1.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.1.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.1.9 COTS Installation Sequence/Dependencies

Table 4-6 identifies installation Sequence Dependencies. Software Cross-Product dependencies are identified above in Table 4-5.

*Table 4-6. Sybase ASE 12.0/12.5 Installation Sequence Dependencies*

| COTS Product | Upgrade Version | Installation Sequence Dependency |
|---|---|---|
| Autosys 3.5 Sybase Patches | 3.5 | Required to be installed prior to ASE 12.0 installation |
| Sybase Replication Server | 12.5 | No Sybase ASE or other installation sequence dependencies. |
| Sybase Central | 4.0 | Required to be installed prior to ASE 12.5 |
| jConnect | 5.5 | Required to be installed prior to ASE 12.5 |
| Tivoli | 3.7.x/4.1 | Required to be installed prior to ASE 12.5 |

## 4.2 Sybase Replication Server/Manager 12.5

### 4.2.1 Description of COTS

Replication Server maintains replicated data in multiple databases while ensuring the integrity and consistency of the data. It provides clients using databases in the replication system with local data access, thereby reducing load on the network and centralized computer systems. Other features of replication are as follows:

- Enables customization of replication functions and to monitor and maintain the replication system
- Ability to request subsets of data for replication at the table, data row, or column level. This feature reduces overhead by allowing only the data needed to be replicated.
- Replication server supports heterogeneous data servers. You can build a replication system from existing databases and applications without having to convert them. As your enterprise grows and changes, you can add data servers to your replication system to meet your needs.
- Replicating tables on local data servers provides clients with local access to enterprise data, which results in improved performance and greater data availability.

Replication Server is an Open Server application that:

- Translates replication system administration requests from Sybase Central and routes them to the destination server
- Monitors and responds to the replication system events
- Can reside on any machine in your network
- Can manage an entire distributed replication system.

### 4.2.2 Rationale for Upgrade

Vendor end of support date of 03/30/2002 is the primary upgrade driver.

#### 4.2.2.1 Vendor Support

End of support has been identified as 03/30/2002.

#### 4.2.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 4.2.2.3 Features/Performance Upgrades

The following new features will be provided in Sybase Replication Server 12.1:

- Failover support in a high-availability system
- Replicating Java objects support
- alter table support
- Heterogeneous datatype support
- External security services support
- Configuration parameters to improve performance
- Counters to monitor performance
- Partition affinity—the ability to choose the disk partition to which Replication Server allocates segments
- New features and functionality in Replication Server Manager (RSM), the Sybase Central plug-in for Replication Server, include continuous notification if queue or partition changes significantly.

The following feature was added in Sybase Replication Agent 12.5:

- Sybase Replication Agent 12.5 supports replication of large-object (LOB) datatypes from DB2 Universal Database. This feature was not available in Sybase Replication Agent version 12.1.

#### 4.2.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues. Sybase 12.5 Replication Server is compatible with Sybase ASE 12 and 12.5.

#### 4.2.2.5 Operating System Compatibility

Version planned for upgrade is compatible with Solaris 8. This will be the Operating System version at the time of the upgrade.

#### 4.2.2.6 Hardware Product Compatibility

There are no identified hardware compatibility issues associated with this product.

### 4.2.3 Operational Impact

Other than the downtime identified in the PSR for the upgrade, there are no identified operational impacts associated with this product upgrade. Upgrade occurring after the Solaris 8 Transition will reduce operational impact at the critical Solaris 8 transition stage.

### 4.2.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.2.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.2.6 Licensing Impact

There are no licensing issues with this software. License keys are required and will be discussed in the PSR document.

### 4.2.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.2.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.2.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product, other than the installation sequences identified in the PSR.

## 4.3 Spatial Query Server (SQS) 3.4.2.4

### 4.3.1 Description of COTS

Spatial Query Server (SQS) is a state-of-the-art, multithreaded database engine which supports:

- the definition of spatial datatypes (e.g., point, line, polygon)
- a set of spatial operations for these datatypes (e.g. intersect, inside, outside)
- a spatial indexing schema for efficient data retrieval

### 4.3.2 Rationale for Upgrade

The major driver for upgrade is announced end of support date for SQS version 3.2.2: December 31, 2002.

#### 4.3.2.1 Vendor Support

The vendor has announced end of support for version 3.2.2 as of 12/31/2002.

#### 4.3.2.2 NCRs

The Table 4-7 presents the NCR that is outstanding for SQS version 3.2.2 at time document release. This NCR will be worked toward resolution and closure in the testing of the version upgrade if they are not closed previously.

***Table 4-7. SQS NCRs***

| NCR ID | Severity | Title |
|---|---|---|
| ECSed22897 | 3 | SQS 3.2.2 does not forward all error messages to its log file |

#### 4.3.2.3 Features/Performance Upgrades

No additional features or performance gains are expected with this upgrade.

#### 4.3.2.4 Cross Software Product Compatibility

SQS 3.4.2.4 is being delivered with a bundled version of Open Client 12.5 with EBF10085, as required by the vendor. There are no compatibility issues with delivery of Open Client 12.0 for all other portions of ECS.

Sybase ASE 12.5 must be installed with or before SQS 3.4.2.4.

#### 4.3.2.5 Operating System Compatibility

Upgrade version is supported on IRIX 6.5.x, which includes IRIX 6.5.14.

#### 4.3.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified.

### 4.3.3 Operational Impacts

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

### 4.3.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.3.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.3.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 4.3.7 External Drivers

No external drivers have been identified.

### 4.3.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.3.9 COTS Installation Sequence/Dependencies

Installation of Sybase ASE 12.5 for SGI is required prior to installation of SQS 3.4.2.4.

## 4.4 Autosys 3.5 Patches for Sybase ASE 12.0 Support

### 4.4.1 Description of COTS

Autosys 3.5 was delivered and installed as a pre-Solaris upgrade. Autosys 3.5 requires additional patches to support Sybase ASE 12.0, which is the currently planned Autosys Server ASE version upgrade. Autosys patch LO80396 for Sybase ASE 12.0 support and Sybase incremental patches LO91470/L0819690/LI82921 for Autosys 3.5 will be added to support Autosys 3.5 in order to support Sybase ASE 12.0.

An attempt was made to deliver Autosys 4.0, which was planned to support Sybase ASE 12.5. The beta phase continued longer than expected and schedule constraints dictated that Autosys 3.5 with Autosys Sybase 12.0 patches would less adversely impact schedule.

### 4.4.2 Rationale for Upgrade

An upgrade to a version of Sybase ASE that would be supported beyond 12/31/2002 for all Sybase-dependent COTS products is required to mitigate end of support risks for this critical COTS. It was determined that a Generally Available (GA) release of Autosys version 4.0, supporting ASE 12.5 would not be available by targeted completion dates. Upgrade to Sybase ASE 12.0 is supported with additional Autosys patches for Sybase ASE 12.0. Support for ASE 12.0 was not provided in the original release, but has been provided by the vendor as patches. These patches will be delivered in order to support a Sybase ASE 12.x version.

#### 4.4.2.1 Vendor Support

Upgrade to a Sybase ASE 12.x version is required for continued Sybase bug fix support. Autosys vendor (CA) end of life and/or end of support is not an issue for this upgrade.

#### 4.4.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 4.4.2.3 Features/Performance Upgrades

No additional performance or features are expected with this upgrade.

#### 4.4.2.4 Cross Software Product Compatibility

Support for Sybase 12.0 is a compatibility issue is addressed by this patch upgrade.

#### 4.4.2.5 Operating System Compatibility

Version planned for upgrade is compatible with Solaris 8. Additional Solaris 8 patches will be delivered as recommended by Sybase. This is discussed in section 4.1.2.5 above.

#### 4.4.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this upgrade.

### 4.4.3 Operational Impact

No operational impacts have been identified, other than downtime needed for installation.

### 4.4.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.4.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.4.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 4.4.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.4.8 Other Impacts/Comments

Upgrade to Autosys version 4.0, which is targeted to support Sybase ASE 12.5 was not implemented because of schedule impact due to long beta testing of this version.

### 4.4.9 COTS Installation Sequence/Dependencies

Autosys patches supporting Sybase ASE 12.0 and Solaris 8 patches should be installed prior to installation of Sybase ASE 12.0.

## 4.5 jConnect 5.5

### 4.5.1 Description of COTS

JConnect is a 100% pure implementation of the JavaSoft JDBC standard. It provides Java clients native database access. This COTS product will enable Java Database Connectivity on Solaris 8 and SGI IRIX systems against Sybase Adaptive Server Enterprise SQL Server System version 11.5.1 through Adaptive Server Enterprise 12.5.

### 4.5.2 Rationale for Upgrade

Current baseline implementation for Solaris and IRIX (jConnect 5.2) is not certified for compatibility with ASE 12.5. Version 5.5 of jConnect has been certified for compatibility with ASE versions 11.5.1 through 12.5.

#### 4.5.2.1 Vendor Support

Support for planned ASE 12.5 upgrade requires upgrade of jConnect. Jconnect 5.5 will be delivered with EBF10349.

#### 4.5.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 4.5.2.3 Features/Performance Upgrades

No additional performance or features are expected with this upgrade.

#### 4.5.2.4 Cross Software Product Compatibility

Upgrade to version 5.5 is planned to assure compatibility with planned Sybase ASE 12.5 upgrade.

#### 4.5.2.5 Operating System Compatibility

This upgrade is platform independent because jConnect is 100% Java software. This will be an automounted COTS that will be accessible by all Operating Systems, including Solaris 8 and

IRIX 6.5.x. This COTS product would also be compatible with Solaris 2.5.1, but this Operating System is not expected used for jConnect at the time of the jConnect upgrade.

#### 4.5.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this upgrade.

### 4.5.3 Operational Impact

Other than the downtime identified in the PSR, no operational impacts are expected.

### 4.5.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.5.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.5.6 Licensing Impact

There are no license impacts with this COTS product. Product is a freeware product provided by Sybase.

### 4.5.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.5.8 Other Impacts/Comments

Version is compatible with current versions of Java and Web Services COTS.

### 4.5.9 COTS Installation Sequence/Dependencies

Installation should occur prior to upgrade of Sybase ASE 12.5.

## 4.6 Sybase Central 4.0

### 4.6.1 Description of COTS

Sybase Central is a tool that database administrators can use to manage and monitor all *Adaptive Server Enterprise* releases as well as Replication Server installations on the network, regardless of the platforms on which they are running.

Some of the unique benefits of using Sybase Central are described below:

- Visual representation of objects. The tree view in the Sybase Central main window expands to show each database, login, device, remote server, named cache, engine group,

execution class, role, and current process in each ASE. Each database expands to show objects such as tables, stored procedures, views, rules, and users.

- Management of multiple servers from one console. From the Sybase Central main window, administrators can manage all Adaptive Server and SQL Server 11.0.x replication servers installed on the network.
- Code editor. Authorized administrators can display, edit, and print code for stored procedures, triggers, and views. The code editor performs syntax highlighting, language-sensitive indenting, and drag-and-drop editing.
- User account management. Logins and roles are manageable objects in Sybase Central. A tab on the login property sheet shows a login's currently assigned permissions on tables, stored procedures, and views.
- Ability to view the status of all parts of a replication system.
- Information about a system is gathered automatically from system tables and configuration files.

### 4.6.2 Rationale for Upgrade

End of support is the primary upgrade driver.

#### 4.6.2.1 Vendor Support

Current version is at end of support.

#### 4.6.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 4.6.2.3 Features/Performance Upgrades

A plug-in module for Replication Server is available.

#### 4.6.2.4 Cross Software Product Compatibility

Sybase Central bundled with Sybase ASE 12.0 does not support Sybase ASE 12.5.

#### 4.6.2.5 Operating System Compatibility

Sybase Central is no longer supported on Windows 95. It is supported on Win98, NT, and Windows 2000. Sybase Central is used exclusively by DDM and DBA Administrators at the DAACs in the M&O PC environment. Sybase Central will be targeted for delivery to the DBA Administrators on the M&O LAN whose Operating Systems are baselined at Windows 98 or higher.

#### 4.6.2.6 Hardware Product Compatibility

There are no identified hardware compatibility issues associated with this product.

### 4.6.3 Operational Impact

Other than downtime identified in the PSR, no additional operational impact is expected.

### 4.6.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.6.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.6.6 Licensing Impact

There are no licensing issues with this software. License keys are required and will be discussed in the PSR document.

### 4.6.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.6.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.6.9 COTS Installation Sequence/Dependencies

Product should be installed prior to or with the installation of Sybase ASE 12.5.

## 4.7 Veritas Volume Manager 3.2

### 4.7.1 Description of COTS

Vertitas Volume Manager builds volumes on top of physical disks to provide a set of volume management capabilities such as disk striping and mirroring. Volume Manager objects can be manipulated in a variety of ways to optimize performance, provide redundancy of data, and perform backups or other administrative tasks on one or more physical disk without interrupting applications. As a result, data availability and disk subsystem throughput are improved.

### 4.7.2 Rationale for Upgrade

The new hardware (g0dus01 and e0dus01 hosts) delivered to support Spatial Subsetting requires version 3.2 of Volume Manager as a minimum. In order to support the ECS Spatial Subsetting function, version 3.2 will be delivered. There is no end of life or end of support for the current version (3.0.4) on all other hardware. DAAC may elect to install upgrade on appropriate

hardware, if desired, after the Solaris 8 Transition. Version 3.2 is not compatible with Solaris 2.5.1 and should not be used in shared disk installations where one host is utilizing Solaris 2.5.1 as the operating system.

#### 4.7.2.1 Vendor Support

Version 3.2 is required for g0dus01 and e0dus01 hosts. There is no end of life or end of support for the current version (3.0.4) on all other hardware.

#### 4.7.2.2 NCRs

No NCRs are associated with this upgrade.

#### 4.7.2.3 Features/Performance Upgrades

No additional features or performance gains are expected with this upgrade.

#### 4.7.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues, other than the operating system dependence mentioned in the following section.

#### 4.7.2.5 Operating System Compatibility

Volume Manager 3.2 is only compatible with Solaris 8. Version 3.2 is not compatible with Solaris 2.5.1 and should not be used in shared disk installations where one host is utilizing Solaris 2.5.1 as the operating system.

#### 4.7.2.6 Hardware Product Compatibility

Delivery will provide a compatible version to upgrade g0dus01 and e0dus01 hosts.

### 4.7.3 Operational Impacts

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR and the Solaris 8 Transition PSR.

### 4.7.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.7.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.7.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 4.7.7 External Drivers

No external drivers have been identified.

### 4.7.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.7.9 COTS Installation Sequence/Dependencies

Solaris 8 should be installed before installing or upgrading to this version.

## 4.8 ClearCase 5.0

### 4.8.1 Description of COTS

ClearCase combines comprehensive software configuration management (SCM) — including version control, workspace management, process control and build management — with a uniquely transparent, non-intrusive approach. With ClearCase, development teams can accelerate development cycles, ensure the accuracy of releases, reliably build and patch previously shipped products, and organize an automated development process — all without changing their environment or their tools.

### 4.8.2 Rationale for Upgrade

End of support for version 4.1 is the primary driver for the ClearCase upgrade. Support for IRIX 6.5.14 is also a factor driving the upgrade. Version 4.1, although successfully tested with IRIX 6.5.14, is not certified for support beyond IRIX 6.5.11.

#### 4.8.2.1 Vendor Support

ClearCase version 4.1 will reach end of support as of 11/01/2002. Version 4.1 runs without problems on IRIX 6.5.14, but is not officially supported by the vendor.

#### 4.8.2.2 NCRs

There are no NCRs for this COTS product.

#### 4.8.2.3 Features/Performance Upgrades

No additional features or performance gains are expected with this upgrade.

#### 4.8.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues related to this upgrade.

#### 4.8.2.5 Operating System Compatibility

ClearCase 5.0 is certified for Solaris 8 and IRIX 6.5.14. No additional operating system patches have been identified at this time.

#### 4.8.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified.

### 4.8.3 Operational Impacts

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

### 4.8.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.8.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.8.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 4.8.7 External Drivers

No external drivers have been identified.

### 4.8.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.8.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

## 4.9 Apache Web Server 1.3.26

### 4.9.1 Description of COTS

The Apache httpd server is a powerful, flexible, HTTP/1.1-compliant web server. It implements the latest protocols, including HTTP/1.1 (RFC2616). It is highly configurable and extensible with third-party modules and can be customized by writing 'modules' using the Apache module API. The Apache Web Server provides full source code and comes with an unrestricted license that runs on most versions of Unix.

### 4.9.2 Rationale for Upgrade

Upgrade to Apache 1.3.26 is planned to provide fixes to identified security issues and additional bug fixes, including a fix for a vulnerability in the handling of chunked transfer encoding. (See the security advisory at http://www.apacheweek.com/redirect.cgi?link=http://www.apache.org/) A list of vulnerabilities addressed by this product can be found at http://www.apacheweek.com/features/security-13

#### 4.9.2.1 Vendor Support

Fix to the identified security issue was provided by the Apache Group, which supports this freeware product.

#### 4.9.2.2 NCRs

A severity 1 NCR was issued against this product, when the security alert review was completed. Table 4-8 identifies the NCRs, one of which is a duplicate. These will be resolved with the delivery of Apache 1.3.26. Data Pool processing was halted until upgrade was delivered. Upgrade was fast tracked through the upgrade process because of the severity of the NCR.

***Table 4-8. Apache Web Server NCRs***

| NCR Number | Severity | State | Subsystem | Issuing Site | Description |
|---|---|---|---|---|---|
| ECSed34597 | 1 | D | Synergy | EDF | Vulnerability in Apache web server must be addressed |
| ECSed34621 | 1 | T | Synergy | EDC | All Modes: Apache: Apache Vulnerable to chunking |

#### 4.9.2.3 Features/Performance Upgrades

Additional security features are expected.

#### 4.9.2.4 Cross Software Product Compatibility

The COTS product mod_SSL version 2.8.9-1.3.26 is being upgraded and bundled for compatibility with Apache upgrade. It will be delivered bundled in the Apache Web Server upgrade.

#### 4.9.2.5 Operating System Compatibility

Source code was compiled on Solaris 8 with standard baseline Solaris 8 compilers. No compatibility issues were identified in this process, by the freeware vendor or in testing of the upgrade.

#### 4.9.2.6 Hardware Product Compatibility

No hardware product compatibility issues have been identified.

### 4.9.3 Operational Impacts

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

### 4.9.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product. Upgrade was tested with upgraded Apache version.

### 4.9.5 Security Impact

Upgrade will resolve identified security vulnerabilities.

### 4.9.6 Licensing Impact

There are no license keys for this product.

### 4.9.7 External Drivers

No external drivers have been identified.

### 4.9.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.9.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

## 4.10 Tivoli Upgrades

The Tivoli upgrade will consist of the upgrades identified in Table 4-9.

*Table 4-9. Tivoli Version Upgrades*

| Current Version | Tivoli Module | Version Upgrade |
|---|---|---|
| 3.6.3 | Tivoli Enterprise Console (TEC) | 3.7 |
| 3.6.3 | Tivoli Distributed Monitoring | 3.7.1 |
| 3.6.3 | Tivoli Software Distribution | 4.1 |
| 3.6.3 | Tivoli Management Framework | 3.7.1 |

### 4.10.1 Description of COTS

Tivoli is a COTS enterprise management framework application which:

- monitors the status of networked devices, hosts and processes that run on the hosts.
- provides a central console for monitoring the enterprise
- provides an extensible framework to customize as needed.

### 4.10.2 Rationale for Upgrade

Upgrade is planned in order to support Sybase ASE 12.5. The current versions cannot support Sybase ASE 12.5. Tivoli Management Framework will reach end of support 07/31/2002. Because of the dependence of the other Tivoli modules on Management Framework, all other Tivoli modules would need to be upgraded for compatibility with Management Framework.

#### 4.10.2.1 Vendor Support

Vendor has identified that Tivoli Management Framework will reach end of support 07/31/2002. This impacts all other Tivoli modules which are dependent on the Management Framework version.

#### 4.10.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 4.10.2.3 Features/Performance Upgrades

No additional features or performance enhancements are expected from this upgrade.

#### 4.10.2.4 Cross Software Product Compatibility

Upgrades are required for support of the planned Sybase ASE 12.5 upgrade. Management Framework is the only Tivoli module with a direct dependency on Sybase ASE. Version 3.7.1 of Tivoli Management Framework supports Sybase ASE 12.5.

#### 4.10.2.5 Operating System Compatibility

The Tivoli upgrades being delivered support Solaris 8 and IRIX 6.5.14. There are no operating system compatibility issues. There are no identified operating system patches required to support the identified Tivoli upgrades.

#### 4.10.2.6 Hardware Product Compatibility

There are no identified hardware compatibility issues associated with this product.

### 4.10.3 Operational Impact

There are no operational impacts to this upgrade other than the normal downtime required for an upgrade.

### 4.10.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.10.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.10.6 Licensing Impact

There are no licensing issues with this software. License keys are required and will be addressed in the PSR.

### 4.10.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.10.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.10.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product, other than the installation sequences identified in the PSR among the Tivoli modules.

## 4.11 WhatsUp Gold 7.03

### 4.11.1 Description of COTS

WhatsUp Gold is a COTS product that provides network administrators with tools to map and monitor their networks. Along with user-defined, periodic polling of work devices and applications, WhatsUp Gold provides network resource and capacity management through real-

time SNMP threshold monitoring. WhatsUp Gold looks at router tables and automatically discovers and maps devices according to the network's hierarchy, with separate maps for each sub-network.

### 4.11.2 Rationale for Upgrade

This COTS product will meet many of the requirements that had been associated with the HP OpenView Product, which was removed during the HP Migration. Product is needed to address level 3 and level 4 requirements with the removal of HP OpenView.

#### 4.11.2.1 Vendor Support

Vendor support is not an issue for this delivery.

#### 4.11.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 4.11.2.3 Features/Performance Upgrades

No additional performance or features are expected with this upgrade.

#### 4.11.2.4 Cross Software Product Compatibility

There are no software compatibility issues associated with this upgrade. There are no known dependencies on another ECS COTS product or dependency of this product on other COTS product other than the Operating System, which is addressed in the following section.

#### 4.11.2.5 Operating System Compatibility

Version 7.02 of the COTS product supports Windows 95, Windows 98, Windows NT 4.0 SP6 or later, Windows 2000, Windows ME. Product will be able to migrate to most recent Windows operating systems should there be a PC operating system upgrade required in the future,

#### 4.11.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this upgrade.

### 4.11.3 Operational Impact

No operational impacts have been identified with installation on the M&O LAN. Product is currently targeted for installation on the M&O Network Administrator’s PC. The Architect’s Office and Chief Engineering have reviewed this issue and have agreed that there is no objection to installation on the M&O LAN.

### 4.11.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.11.5 Security Impact

No security impacts have been identified for this COTS product. However, because of the nature of the product and the current plans to install on the M&O LAN and monitor the Production LANs, some issues, related to the Security Firewall are also being worked. Refer to section 0, 4.11.7 External Drivers for additional details on this.

### 4.11.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 4.11.7 External Drivers

With the planned installation on the Network Administrator's PC on the M&O LAN for convenience and efficiency reasons, some potential firewall issues have been identified. The Firewall Team has worked these issues at GSFC. After delivery of the PSR, the DAACs will work with the firewall team to implement the necessary "rules" to allow for monitoring hosts within the firewall. This will be worked as a post-PSR step.

### 4.11.8 Other Impacts/Comments

Current plans are to baseline WhatsUp Gold on the COTS Software Version Baseline with comment that software is installed on Network Administrator's PC on the M&O LAN. Since the M&O LAN is not baselined by CM, the software will not appear mapped to specific machines at the DAACs.

### 4.11.9 COTS Installation Sequence/Dependencies

No installation sequence or other dependencies have been identified with this COTS product.

## 4.12 SGI BDSpro 2.4/HiPPI 4.0

### 4.12.1 Description of COTS

BDS (Bulk Data Service)pro 2.4 is lightweight version of the popular NFS (Network File System) 3.0 that enables very high speed transfer of data using HiPPI interfaces on SGI Challenge systems. Simply stated, BDS is an important tool to provide the network throughput between the high powered systems that will enable ECS to meet performance requirements.

BDSpro is used with SGI HiPPI software to enhance throughput. SGI Challenge hosts require version HiPPI software version 3.3.1. However, Origin hosts require HiPPI 4.0. HiPPI 4.0 was delivered as an emergency upgrade when it was identified that this version was necessary for Origin hosts. This version will be formally PSRed with BDSpro 2.4. BDSpro 2.4 will support both HiPPI versions.

### 4.12.2 Rationale for Upgrade

SGI has indicated that no more bug fixes will be provided for the current baseline version of BDSpro, 2.1. Additionally, version 2.4 includes support for Schedule Transfer Protocol (STP), which will provide better performance. A number of bug fixes included since version 2.1 should also enhance the overall performance of the product.

HiPPI 4.0 was delivered as an emergency upgrade when it was identified that this version was necessary for Origin hosts. This version will be formally PSRed with the BDSpro 2.4/HiPPI 4.0 PSR.

#### 4.12.2.1 Vendor Support

SGI has indicated that no more bug fixes will be provided for the current baseline version of BDSpro, version 2.1.

#### 4.12.2.2 NCRs

There are no NCRs against this COTS product.

#### 4.12.2.3 Features/Performance Upgrades

Additional performance benefits are expected with this upgrade to version 2.4.

#### 4.12.2.4 Cross Software Product Compatibility

There are no software compatibility issues associated with this upgrade.

#### 4.12.2.5 Operating System Compatibility

BDSpro 2.4 is supported on IRIX 6.5.14.

#### 4.12.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this upgrade.

### 4.12.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

### 4.12.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.12.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.12.6 Licensing Impact

There are no license impacts with this COTS product.

### 4.12.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.12.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.12.9 COTS Installation Sequence/Dependencies

No installation sequence or other dependencies have been identified with this COTS product.

## 4.13 Netscape Communicator 7.0

### 4.13.1 Description of COTS

Netscape Communicator provides the following capabilities:

- "browse" HTML pages on the Internet
- read and send electronic mail
- read and contribute to Internet news groups (bulletin board services).
- interface into ECS System

### 4.13.2 Rationale for Upgrade

The current baseline version of Netscape Communicator, 4.78, has reached end of life, i.e. no more bug fixes. However, a stable version is required and the 6.x series has been identified as lacking in stability. Work on Mozilla promises to provide considerable stability to the product. Netscape has released a "preview" of version 7.0, which is based on Mozilla 1.0. With RTSC recommendation, upgrade will await the GA version of 7.0 for Solaris and IRIX.

#### 4.13.2.1 Vendor Support

Vendor has identified end of bug fix support for version 4.78. Upgrade to stable version based on Mozilla 1.0 is planned.

#### 4.13.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 4.13.2.3 Features/Performance Upgrades

No additional features or performance upgrades are expected from this upgrade.

#### 4.13.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues.

#### 4.13.2.5 Operating System Compatibility

Version is will be delivered for Solaris 8 and IRIX 6.5.x only.

#### 4.13.2.6 Hardware Product Compatibility

There are no identified hardware compatibility issues associated with this product.

### 4.13.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR and the Solaris 8 Transition PSR.

### 4.13.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.13.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.13.6 Licensing Impact

There are no licensing issues with this software.

### 4.13.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.13.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.13.9 COTS Installation Sequence/Dependencies

The Solaris 8 Operating System upgrade is required to be installed before upgrading the COTS product.

## 4.14 Sendmail Commercial 1.2.2

### 4.14.1 Description of COTS

Sendmail is a product whose principal function is transporting mail from a user on one machine to another user on the same or a different machine. Sendmail utilizes Domain Name System (DNS) to translate hostnames into network addresses.

As part of Security Proposal 1028.1, a commercial sendmail product will be implemented with Solaris 8. The commercial sendmail product, Sendmail Advanced Message Server or SAMS will extend the functionality of sendmail. Product includes simplified administration and management tools, the latest in email server security, efficiently scalable POP/IMAP message stores and LDAP services, mail network unification and content filtering, while offering add-on solutions for Web mail.

### 4.14.2 Rationale for Upgrade

A commercial version of sendmail was identified for Solaris 8 because of security concerns. The commercial version will provide a level of support not available with freeware versions. Additional security features are also available with the commercial version.

#### 4.14.2.1 Vendor Support

Consistent and reliable product support and security upgrades are the primary upgrade drivers.

#### 4.14.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 4.14.2.3 Features/Performance Upgrades

Additional security features are expected from this upgrade.

#### 4.14.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues.

#### 4.14.2.5 Operating System Compatibility

Product has not been certified for compatibility with Solaris 2.5.1, and therefore may not be backward compatible. Delivery is intended for Solaris 8 only.

#### 4.14.2.6 Hardware Product Compatibility

There are no identified hardware compatibility issues associated with this product.

### 4.14.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR and the Solaris 8 Transition PSR.

### 4.14.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 4.14.5 Security Impact

Additional security features are expected with upgrade to this COTS product.

### 4.14.6 Licensing Impact

License keys are required for this product and they will be addressed in the PSR document.

### 4.14.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.14.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.14.9 COTS Installation Sequence/Dependencies

The Solaris 8 Operating System upgrade is required to be installed before upgrading the COTS product.

## 4.15 ClearDDTS 4.7

### 4.15.1 Description of COTS

The Clear Distributed Defect Tracking System (ClearDDTS) is an ECS change request management COTS application which:

- provides the capability to electronically compose, submit, report, and track the status of ECS configuration change requests (CCR)
- provides the capability to electronically compose, submit, report, and track the status of ECS non-conformance reports (NCR)
- has a web interface which facilitates access to and modification of change request information directly from a web browser (new capability)

### 4.15.2 Rationale for Upgrade

Version 4.1 is at end of life and end of support. Version does not support Solaris 8. A new version is needed to migrate the CM Server to Solaris 8 after XRP-II replacement product is available for installation.

#### 4.15.2.1 Vendor Support

Vendor end of life and end of support and Solaris 8 support are the primary upgrade drivers. At one time vendor had indicated that product might be dropped. However, vendor has recently identified that development work with the product is continuing, with version 4.8 planned for release next year.

#### 4.15.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 4.15.2.3 Features/Performance Upgrades

No additional performance or features are expected with this upgrade.

#### 4.15.2.4 Cross Software Product Compatibility

There are no software compatibility issues associated with this upgrade.

#### 4.15.2.5 Operating System Compatibility

Version planned for upgrade is compatible with Solaris 2.5.1 and Solaris 8. The CM Server host, on which DDTS resides at the DAACs, will be retained at Solaris 2.5.1 until the XRP-II product is ready to be replaced. Upgrade may occur while still at Solaris 2.5.1 or may occur after the CM Server is upgraded to Solaris 8, depending on host baseline requirements.

#### 4.15.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this upgrade.

### 4.15.3 Operational Impact

No operational impacts have been identified.

### 4.15.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.15.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.15.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 4.15.7 External Drivers

Planned migration of XRP-II to Remedy requires that the CM Server, on which both XRP-II and DDTS reside, will remain at Solaris 2.5.1 during the Solaris 8 transition. Upgrade to Solaris 8 will occur when XRP-II to Remedy migration is completed. DDTS upgrade may occur while at Solaris 2.5.1 or wait until Solaris 8 upgrade has occurred, as identified by current baseline requirements for host.

### 4.15.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.15.9 COTS Installation Sequence/Dependencies

No installation sequence or other dependencies have been identified with this COTS product.

## 4.16 Npassword 2.05: Anlpassword Replacement

### 4.16.1 Description of COTS

Anlpassword is a freeware product that provides password checking features supporting ECS security policies. It will be replaced by the freeware product npassword, which has the same functionality and will meet the security requirements that were previously met by Anlpassword.

### 4.16.2 Rationale for Upgrade

The Anlpassword freeware product has not been updated for more recent password features such as shadow passwords. No further work is planned beyond current version. Product has caused corruption of password files and was removed from the baseline for this reason. Replacement of anlpassword with npassword will support both IRIX and Solaris operating systems. Commercial products reviewed for replacement had limited or no support for SGI.

#### 4.16.2.1 Vendor Support

The group that supports this freeware product has indicated that no further work will be done on the product. Support for problems with shadow passwords will not be provided. A replacement product is therefore needed.

#### 4.16.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 4.16.2.3 Features/Performance Upgrades

No additional performance or features are expected with this upgrade.

#### 4.16.2.4 Cross Software Product Compatibility

There are no software compatibility issues associated with this upgrade.

#### 4.16.2.5 Operating System Compatibility

Freeware source code will be compiled and tested for use with Solaris 8 and IRIX 6.5.14.

#### 4.16.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this upgrade.

### 4.16.3 Operational Impact

No operational impacts have been identified other than the downtime that may be required for this upgrade.

### 4.16.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.16.5 Security Impact

No security impacts have been identified for this COTS product. The functionality provided by npassword will support security requirements formerly met by Anlpassword.

### 4.16.6 Licensing Impact

No license keys are required for this COTS product.

### 4.16.7 External Drivers

There are no known external drivers to this upgrade.

### 4.16.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.16.9 COTS Installation Sequence/Dependencies

No installation sequence or other dependencies have been identified with this COTS product.

## 4.17 Brio Report 6.2 (SQR)

Brio Report is not currently in use within ECS although there are level 3 and 4 requirements for report writer functionality. Upgrade has been delayed.

### 4.17.1 Description of COTS

Brio Report (formerly SQR) is a report creation tool that allows users to create formatted report production. It has a report creation language that is a dynamic generation of SQL. Some of the key features are:

- Integrated Schema Browser – which allows viewing database structures and contents
- A procedural programming language for creating simple and complex report
- Full control over database transactions

### 4.17.2 Rationale for Upgrade

The current baseline version of SQR is 4.3.4. This version is not certified for Solaris 8, is at end of support and is not certified to support the planned Post-Solaris upgrade to Sybase Open Client 12. Upgrade is driven by these three factors.

#### 4.17.2.1 Vendor Support

Since the previous delivery of SQR 4.3.4, the product has been acquired by Brio Technologies and renamed Brio Report. Brio has indicated that version 4.3.4 is at end of support. Brio will release version 6.2 in January 2002. This version will be used for upgrade. Certification for current and planned Operating System and Database version upgrades were also needed. Version 6.2 supports Solaris 8 and OpenClient 12/12.5 on Solaris 8.

#### 4.17.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 4.17.2.3 Features/Performance Upgrades

Brio Report 6.2 provides a GUI interface, which previous versions did not. This will enable current product to meet all level 3 and 4 requirements for a Report Writer. A GUI interface is currently required.

#### 4.17.2.4 Cross Software Product Compatibility

Version 6.2 of Brio Report supports Solaris 8 and OpenClient 12/12.5 on Solaris 8.

#### 4.17.2.5 Operating System Compatibility

Product is certified by the vendor for Solaris 8 compatibility only and therefore may not be backward compatible with Solaris 2.5.1. Delivery intended for Solaris 8 only.

#### 4.17.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this upgrade.

### 4.17.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR and the Solaris 8 Transition PSR.

### 4.17.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.17.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.17.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 4.17.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.17.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.17.9 COTS Installation Sequence/Dependencies

No installation sequence or other dependencies have been identified with this COTS product.

## 4.18 SANtricity 8.00.G2.01

### 4.18.1 Description of COTS

Santricity is a graphical user interface which is used to configure the StorageTek 9176 and D178 storage arrays. It runs on the Metadata Server which is part of the SAN subsystem.

### 4.18.2 Rationale for Upgrade

The D178 RAID controllers which were purchased under the Synergy III proposal require this upgrade.

#### 4.18.2.1 Vendor Support

The current SYMplicity version 7.10.GG.02 supports the StorageTek 9176 disks. The new D178 disks that are being added to Metadata Server hosts (x0sas01) require an upgraded version of this software. The more recent version of this product (now renamed as SANtricity) will support management of both drive types. Upgrade of all Metadata Server hosts to a single version will simplify the baseline and management of the Metadata Server.

#### 4.18.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 4.18.2.3 Features/Performance Upgrades

No performance enhancement or new features are expected to be provided with this upgrade.

#### 4.18.2.4 Cross Software Product Compatibility

SANtricity 8.00.G2.01 is compatible with all other software versions on the Metadata Server. The product does not interact with other software on the Metadata Server.

#### 4.18.2.5 Operating System Compatibility

Product is certified by the vendor for Solaris 8 compatibility. Delivery intended for Solaris 8 only.

#### 4.18.2.6 Hardware Product Compatibility

This upgrade addresses the hardware compatibility issues associated with supporting the two drive types identified above.

### 4.18.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR.

### 4.18.4 Custom Code Impact

There are no custom code impacts identified for this upgrade.

### 4.18.5 Security Impact

No security impacts have been identified for this COTS product.

### 4.18.6 Licensing Impact

License keys are not required for this COTS product.

### 4.18.7 External Drivers

No external drivers have been identified for this COTS product.

### 4.18.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 4.18.9 COTS Installation Sequence/Dependencies

No installation sequence or other dependencies have been identified with this COTS product.

There are no software installation dependencies for this upgrade.

# 5. Synergy III COTS Upgrades

Synergy III is currently being designed. One COTS product has been identified as required. This product is an upgrade to the currently delivered JDOM product. JDOM 0.7 will be upgraded to JDOM 0.8. This COTS product is discussed in the following section.

## 5.1 Potential COTS Upgrades

Three other COTS products have also been identified as possible new products to support Synergy design. These are:

- Perl module, XML::Xerces 1.7.0-1
- Apache Xerces C++ XML Parser 1.7.0
- OpenLDAP 2.1.2

A final decision has not been made on whether these COTS items will be needed for Synergy III as of publication of this document.

## 5.2 JDOM 0.8

### 5.2.1 Description of COTS

JDOM is a Java representation of an XML document. JDOM provides a way to represent that document for easy and efficient reading, manipulation, and writing. It has a straightforward API, is lightweight and fast, and is optimized for the Java programmer. It's an alternative to DOM (Document Object Model) and SAX (Simple API for XML) , although it integrates well with both DOM and SAX.

### 5.2.2 Rationale for Upgrade

Upgrade to JDOM beta 8 is required for Synergy III design to support XML schema validation for non-ECS data inserts.

#### 5.2.2.1 Vendor Support

There are no vendor support issues associated with this product.

#### 5.2.2.2 NCR

There are no NCRs against this COTS product.

#### 5.2.2.3 Features/Performance Upgrades

No additional features or increased performance is expected with this upgrade.

#### 5.2.2.4 Cross Software Product Compatibility

JDOM is compatible with the current JRE 1.3.1_01 environment delivered for Solaris 8.

#### 5.2.2.5 Operating System Compatibility

JDOM is compatible with the current JRE 1.3.1_01 environment delivered for Solaris 8.

#### 5.2.2.6 Hardware Product Compatibility

There are no hardware compatibility issues with this COTS product.

### 5.2.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the PSR.

### 5.2.4 Custom Code Impact

COTS product is only used by Synergy. The Synergy custom code is being designed and tested with version 0.8.

### 5.2.5 Security Impact

No security impacts have been identified for this upgrade version.

### 5.2.6 Licensing Impact

No license keys are required for this freeware product.

### 5.2.7 External Drivers

No external drivers have been identified for this COTS product upgrade.

### 5.2.8 Other Impacts/Comments

No other impacts have been identified with this COTS product.

### 5.2.9 COTS Installation Sequence/Dependencies

JDOM 0.8 should be installed prior to or with Synergy III custom code.

# 6. Future COTS Upgrades

A number of additional COTS upgrades are planned for the future. Some of these may start before the first of the year and are therefore included in this volume. These are summarized in Table 6-1 and in detail in the following section 6 entries.

***Table 6-1. Future COTS Upgrades***

| COTS Product | Current Baseline Version | Future Upgrade Version |
|---|---|---|
| Exabyte Driver | 1.3 | Product/Version TBD |
| IMSL C Numeric Libraries | 3.0 | 5.0 |
| Insure ++ | 5.1 | 6.0 |
| IRIX Patch Bundle | 6.5.14 | 6.5.x and/or individual patches |
| JRE | 1.3.1_x | 1.4 |
| Legato Networker | 6.0.2 | 6.1.1 |
| Oracle Migration from SGI | 8.1.7 on SGI | 9i on Sun |
| PopChart | 3.8 | 4.0 |
| Portus | 4.0 | 5.0 |
| Purify | 5.3 | 2002a |
| QFS | 3.5.0-41A | TBD |
| RDAC | 7.10.0G.00 | TBD |
| Remedy XRP Migration | XRP-II | Remedy 4.5.2 with development customizations |
| Rogue Wave Libraries | Edition 2 versions | Edition 3 versions |
| SANergy | 2.3.3 | TBD |
| Solaris 8 Patch Bundle | Solaris 8 CD 02/02 | Solaris 8 Recommended Patch Bundle & other identified patches |
| SYMplicity Storage Manager | 7.10.GG.02 | Santricity Storage Manager 8.00.G2.01 |
| Whats Up Gold | 7.2 | 8.0 |
| XVT DSC | 5.1 | 5.5 |

## 6.1 Insure++ 6.0

### 6.1.1 Description of COTS

Insure++ is a runtime error detection tool that automatically detects a wide range of errors in C/C++ applications. Insure++ assists in producing robust, well-optimized, high-quality software, while slashing development time and reducing maintenance and support costs.

This COTS product is in use only by EDC, primarily to support Aster 64-bit SGI custom code.

### 6.1.2 Rationale for Upgrade

Version 6.0 is due to be release 08/2002 for SGI. With this release, there will be a year of support for the current 5.1 version.

#### 6.1.2.1 Vendor Support

Upgrade is planned to mitigate end of life and end of support risks for the vendor.

#### 6.1.2.2 NCRs

There are no NCRs against this COTS product/version.

#### 6.1.2.3 Features/Performance Upgrades

No specific performance or features enhancement are expected with this upgrade.

#### 6.1.2.4 Cross Software Product Compatibility

There are no cross software product compatibility issues with this product.

#### 6.1.2.5 Operating System Compatibility

Product is certified for the major IRIX 6.5 release, which includes all minor or patch operating system upgrades.

#### 6.1.2.6 Hardware Product Compatibility

There are no hardware compatibility issues associated with this product upgrade.

### 6.1.3 Operational Impact

There are no operational impacts with this upgrade, other than the downtime required to install the product as identified in PSR.

### 6.1.4 Custom Code Impact

There are no custom code impacts with this upgrade.

### 6.1.5 Security Impact

There are no security issues with this upgrade.

### 6.1.6 Licensing Impact

There are license keys required for this COTS product. Update of license keys, if needed, will addressed in the PSR.

### 6.1.7 External Drivers

There are no external drivers associated with delivery of this COTS product.

### 6.1.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.1.9 COTS Installation Sequence/Dependencies

There are no installation sequence or other dependencies associated with this COTS product.

## 6.2 Purify 2002a Sun/SGI Upgrade

### 6.2.1 Description of COTS

Purify is used in software development to support debugging by identifying memory related bugs in code. Product is used as the standard debugging tool in development and is delivered to the DAAC as a debugging tool for DAAC-developed code.

### 6.2.2 Rationale for Upgrade

Problems have been identified in current Purify version for the Solaris operating system, version 5.3 after the Solaris 8 02/02 upgrade. These problems impact use of tool. Upgrade for both Sun and SGI are planned.

#### 6.2.2.1 Vendor Support

Vendor support policy identifies that upgrades are required for bug fixes. Bug fixes are only moved forward to the most recent version and upgrade is needed once a new release has been delivered.

#### 6.2.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 6.2.2.3 Features/Performance Upgrades

No significant additional features or performance are expected from this COTS upgrade.

#### 6.2.2.4 Cross Software Product Compatibility

Purify 2002a supports current IRIX (7.3.1.2m) and Forte (6.1) compiler versions.

#### 6.2.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.2.2.6 Hardware Product Compatibility

There are no hardware product compatibility issues with this COTS product.

### 6.2.3 Operational Impact

Minimal impact is expected because this development support tool is installed as an automounted tool.

### 6.2.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 6.2.5 Security Impact

No Security impacts have been identified for this upgrade version.

### 6.2.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 6.2.7 External Drivers

No external drivers have been identified for this COTS product.

### 6.2.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.2.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

## 6.3 IMSL C Numeric Libraries 5.0

### 6.3.1 Description of COTS

The IMSL C Numerical Library (CNL) is a comprehensive set of more than 370 thread safe mathematical and statistical analysis functions that C/C++ programmers can embed directly into their numerical analysis applications. Many of CNL's functions are based upon the same algorithms contained in the vendor's IMSL Fortran 90 MP Library. Version 5.0 offers over 75 new numerical analysis functions.

### 6.3.2 Rationale for Upgrade

End of support for bug fixes for version 3.0 is the primary drivers for upgrade.

#### 6.3.2.1 Vendor Support

Vendor will continue support of product, but no more bug fixes will be provided for the current version.

#### 6.3.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 6.3.2.3 Features/Performance Upgrades

Upgrade is not planned to implement any specific new features or performance enhancements.

#### 6.3.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues.

#### 6.3.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.3.2.6 Hardware Product Compatibility

There are no identified hardware impacts associated with this product.

### 6.3.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR.

### 6.3.4 Custom Code Impact

There are no custom code impacts with this upgrade.

### 6.3.5 Licensing Impact

License keys are required for this COTS product upgrade. PSR will address process for obtaining new license keys if these are required for the upgrade.

### 6.3.6 Security Impact

There are no security issues or impacts with this COTS product upgrade.

### 6.3.7 External Drivers

No external drivers have been identified for this COTS product.

### 6.3.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.3.9 COTS Installation Sequence/Dependencies

There are no installation sequence or other COTS product dependencies associated with this upgrade.

## 6.4 Exabyte Driver Replacement

### 6.4.1 Description of COTS

The Exabyte Driver is used to support 8mm tape stacker units. It is a freeware product that has not been supported by the vendor for three years. Solaris 8 had not been released when support was dropped by Exabyte. Testing is needed to verify that the Exabyte driver 3.0 is binary compatible with Solaris 8 and perform its current functions within the Solaris 8 environment.

In EDF testing, RTSC has identified that the Exabyte driver functions correctly with all but Sun E450 devices. Exabyte Drivers are used only on Sun E450s in the EDF. There are no Sun E450s at the DAACs. A workaround has been identified in the EDF, so that Solaris 8 Transition activities may proceed with the current version.

In addition to the E450 issue, there are long-term support concerns related to this currently unsupported driver related to future hardware and operating system upgrades.

### 6.4.2 Rationale for Upgrade

The current version was provided by Exabyte Corporation and is functioning on Solaris 8. However, the vendor dropped support for product in 1999. Long term upgrade capability is a risk that the identifying an upgrade will mitigate.

Replacement with the ReelRobot SRI product has been initiated and found to have significant support issues. The product has been procured by Legato. Legato has indicated "unofficially" that no additional development work is planned for this product by Legato. This would indicate that ReelRobot would have long-term support issues. Other replacement alternatives are being researched.

#### 6.4.2.1 Vendor Support

The vendor that originally provided this freeware product has indicated that no further work will be done on the product. Migration to a substitute product is needed to assure capability to upgrade to future Operating Systems.

Alternative solutions are being researched. Procurement may be necessary.

#### 6.4.2.2 NCRs

No NCRs are outstanding for this COTS product.

#### 6.4.2.3 Features/Performance Upgrades

N/A as replacement product has not currently been identified.

#### 6.4.2.4 Cross Software Product Compatibility

N/A as replacement product has not currently been identified.

#### 6.4.2.5 Operating System Compatibility

N/A as replacement product has not currently been identified.

#### 6.4.2.6 Hardware Product Compatibility

N/A as replacement product has not currently been identified.

### 6.4.3 Operational Impact

This topic will be reviewed when replacement product is identified.

### 6.4.4 Custom Code Impact

There are no custom code impacts expected for this replacement.

### 6.4.5 Security Impact

This topic will be reviewed when replacement product is identified.

### 6.4.6 Licensing Impact

This topic will be reviewed when replacement product is identified.

### 6.4.7 External Drivers

This topic will be reviewed when replacement product is identified.

### 6.4.8 Other Impacts/Comments

This topic will be reviewed when replacement product is identified.

### 6.4.9 COTS Installation Sequence/Dependencies

This topic will be reviewed when replacement product is identified.

## 6.5 Metadata Server COTS Upgrades/Patches

The Synergy Metadata Server employs several COTS product, including the following:

- SANergy
- QFS
- RDAC
- SYMplicity Storage Manager

- JNI C Controller for Fiber Channel

Currently no end of life or end of support has been identified for these products. However, because the Metadata Server implements leading edge SAN technologies, upgrades or patches to products are expected to be need during the end of contract and extension period.

One of these products, SYMplicity Storage Manager, is being upgraded in the FY02 period. This upgrade is discussed above in section 0, 4.18 SANtricity 8.00.G2.01.

### 6.5.1 Description of COTS

This group of COTS products comprise the SAN solution implemented in the Synergy Metadata Server, with the SANergy product being primary. Upgrades will be performed to mitigate end of life and end of support issues that are expected to occur with one or more of these products.

### 6.5.2 Rationale for Upgrade

Upgrades will be performed to mitigate end of life and end of support issues that are expected to occur with one or more of these products.

#### 6.5.2.1 Vendor Support

No end of lie or end of support estimates could be provided for these products by the vendor who delivered the bundled solution. Upgrades or patches to one or more products is expected to be required to mitigate end of life and end of support risks.

#### 6.5.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 6.5.2.3 Features/Performance Upgrades

Upgrade is not planned to implement any specific new features or performance.

#### 6.5.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues.

#### 6.5.2.5 Operating System Compatibility

There are no identified operating system compatibility issues are expected with this upgrade. This issue will be reviewed when the upgrades are identified.

#### 6.5.2.6 Hardware Product Compatibility

There are no identified hardware impacts associated with this product.

### 6.5.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR.

### 6.5.4 Custom Code Impact

There are no custom code impacts with this upgrade.

### 6.5.5 Licensing Impact

There are license keys required for some of these COTS products. Obtaining the license keys will be addressed in the individual PSRs.

### 6.5.6 Security Impact

There are no security issues associated with this COTS product.

### 6.5.7 External Drivers

No external drivers have been identified for this COTS product.

### 6.5.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.5.9 COTS Installation Sequence/Dependencies

## 6.6 Firewall Software: Portus 5.0/eBorder 3.5

### 6.6.1 Description of COTS

All Portus Firewall systems have been install as of June 28, 2002. Two firewalls where install at Landover, one in each of VATC and PVC test centers. One firewall was install at each of the DAACs, NSIDC, EDC, GSFC, and LaRC. One firewall was install at the SMC at GSFC campus.

An integral COTS package of the whole firewall install, but not part of the Portus software is the commercial SOCKS package, eBorder. Each firewall has a full Enterprise Edition of eBorder installed.

Both COTS, Portus and eBorder have released upgrades that incorporate enhancements that help increase security. Testing of the upgrade will be done starting August 2002 in the VATC test center in Landover.

### 6.6.2 Rationale for Upgrade

Improved security as identified in NASA Security Direction 1028 drove the original installations. The upgrade will add layers to the security at each of the facilities. Upgrade will also mitigate end of bug fix support for the Portus version 4.0.

#### 6.6.2.1 Vendor Support

Portus vendor will end bug fix support as of 10/2002. Upgrade will mitigate this risk.

#### 6.6.2.2 NCRs

There are no NCRs against this product.

#### 6.6.2.3 Features/Performance Upgrades

Improved security features will be provided with upgrade.

#### 6.6.2.4 Cross Software Product Compatibility

The Portus and eBorder software upgrades planned are compatible with all other Firewall software.

#### 6.6.2.5 Operating System Compatibility

The Portus and eBorder software upgrades are compatible with AIX 4.3.3, the current Firewall Server operating system baseline version.

#### 6.6.2.6 Hardware Product Compatibility

The Portus and eBorder software upgrades are compatible with all Firewall hardware and Network implementations.

### 6.6.3 Operational Impact

Testing will be done at Landover, first in the VATC, then in the PVC to reduce to a minimal the impact on DAAC operations. Each DAAC will have to schedule down time not to exceed 8 hours for the upgrades. Actual down time will be ascertain after testing in August 2002 and will be identified in the PSR.

### 6.6.4 Custom Code Impact

No custom code impact is expected. The eBorder software used by development will not be upgraded and will be compatible with the eBorder Server software upgrade.

### 6.6.5 Security Impact

Additional security features will be provided with the upgrades of both products.

### 6.6.6 Licensing Impacts

New license keys will be required for Portus upgrade, but not for the eBorder Server upgrade. License keys for Portus will be discussed in the PSR.

### 6.6.7 External Drivers

No external drivers have been identified for this upgrade

### 6.6.8 Other Impacts/Comments

There are no other identified impacts to this upgrade.

### 6.6.9 COTS Installation Sequence/Dependencies

No installation sequence or other dependencies have been identified for this upgrade.

## 6.7 XVT DSC 5.5

### 6.7.1 Description of COTS

DSC features a GUI builder for quick interface layout and proto-typing. DSC also includes a full-featured C API that enables applications to be portable, yet native to a specific operating system. Unlike interpretive languages and emulated windowing systems, DSC leverages the native operating system.

### 6.7.2 Rationale for Upgrade

Obtain the most recent patches for the operating system, compilers, and other bundled freeware to mitigate risk.

#### 6.7.2.1 Vendor Support

Vendor support policy identifies that support for version extends only three months after new non-maintenance release. Vendor averages at least one full (non-maintenance) releases per year. Current 5.1 version is estimated to reach end of support 10/31/2002, as version 5.5 is expected to be delivered 07/31/2002.

#### 6.7.2.2 NCRs

There are no NCRs against this product.

#### 6.7.2.3 Features/Performance Upgrades

No additional features or performance enhancements are expected from this upgrade.

#### 6.7.2.4 Cross Software Product Compatibility

There are no cross software product compatibility issues associated with this upgrade.

#### 6.7.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.7.2.6 Hardware Product Compatibility

There are no known hardware compatibility issues with this upgrade.

### 6.7.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the planned PSRs.

### 6.7.4 Custom Code Impact

Product is used for the development of portions of ECS custom code. Custom code will be tested for delivery as custom code.

### 6.7.5 Security Impact

No security impacts have been identified for this COTS product.

### 6.7.6 Licensing Impact

There are no licensing issues with this upgrade. Product is licensed for developers only and is not delivered to the DAACs as a COTS product.

### 6.7.7 External Drivers

Custom code delivery schedule will impact delivery.

### 6.7.8 Other Impacts/Comments

No additional impacts are expected from this upgrade.

### 6.7.9 COTS Installation Sequence/Dependencies

There are no current installation sequence or other dependencies to this upgrade.

## 6.8 What'sUp Gold 8.x

### 6.8.1 Description of COTS

WhatsUp Gold is COTS product which provides network administrators with tools to map and monitor their networks. Along with user-defined, periodic polling of work devices and applications, WhatsUp Gold provides network resource and capacity management through real-time SNMP threshold monitoring. WhatsUp Gold looks at router tables and automatically discovers and maps devices according to the network's hierarchy, with separate maps for each sub-network

### 6.8.2 Rationale for Upgrade

End of support is the primary driver. There are no bug fixes with the release of a major new version. Version 7.02 will come to end of support with the release of version 8. This release is expected 12/31/2002.

#### 6.8.2.1 Vendor Support

Vendor support is the primary driver of this upgrade.

#### 6.8.2.2 NCRs

There are no NCRs against this product.

#### 6.8.2.3 Features/Performance Upgrades

No additional features or performance enhancements are expected from this upgrade.

#### 6.8.2.4 Cross Software Product Compatibility

There are no cross-platform product compatibility issues with this product.

#### 6.8.2.5 Operating System Compatibility

There are no operating system compatibility issues associated with this upgrade.

#### 6.8.2.6 Hardware Product Compatibility

There are no known hardware compatibility issues with this upgrade.

### 6.8.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the planned PSRs.

### 6.8.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product. Custom code will be tested for compatibility.

### 6.8.5 Security Impact

No direct security impacts have been identified for this COTS product. However, DAACs may need to work with the Firewall Team to establish any new "rules" needed to manage/monitor new devices.

### 6.8.6 Licensing Impact

There are license keys required for this product. Obtaining or upgrading license keys will be addressed in the PSR.

### 6.8.7 External Drivers

There are no external drivers identified for this upgrade.

### 6.8.8 Other Impacts/Comments

No additional impacts are expected from this upgrade.

### 6.8.9 COTS Installation Sequence/Dependencies

There are no current installation sequence or other COTS software dependencies to this upgrade.

## 6.9 Legato Networker 6.1.2

### 6.9.1 Description of COTS

Legato NetWorker is a system backup and recovery COTS application that provides the capability to archive, administer, backup, and recover data for the UNIX Operating System.

### 6.9.2 Rationale for Upgrade

The major driver for the upgrade is the vendor dropping support for Legato Networker 6.0.1 version, the current baseline version. Although no end of support date has been formally announced, vendor has estimated that the upgrade could occur as early as 10/2002. Version 6.1.2 will also provide certified support for IRIX 6.5.14.

#### 6.9.2.1 Vendor Support

End of support date has not been announced, but the vendor estimates that this is expected to occur by 10/2002 (at the earliest). Additionally, IRIX 6.5.14 was not an officially supported platform under the 6.0.1 version. All ECS operating system versions will be fully supported under the 6.1.2 upgrade version. Upgrade version 6.1.2 is supported on Solaris 8. Solaris 2.5.1 is not supported by version 6.1.2. The current version of Networker (6.0.1) will remain on Solaris 2.5.1 hosts until they are upgraded to Solaris 8 with the delivery of the XRP-II replacement.

#### 6.9.2.2 NCRs

No NCRs are associated with this upgrade.

#### 6.9.2.3 Features/Performance Upgrades

No additional features or performance gains are expected with this upgrade.

#### 6.9.2.4 Cross Software Product Compatibility

There are no known software product compatibility issues.

#### 6.9.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.9.2.6 Hardware Product Compatibility

There are no hardware product compatibility issues identified.

### 6.9.3 Operational Impacts

There are no operation impacts expected with this upgrade other than the downtime required for the installation.

### 6.9.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 6.9.5 Security Impact

No security impacts have been identified for this COTS product.

### 6.9.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 6.9.7 External Drivers

No external drivers have been identified.

### 6.9.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.9.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

## 6.10 XRP Replacement & Report Writer

### 6.10.1 Description of COTS

XRP-II v3.1.3 and ACCELL (v2.0.7.2.0), collectively serve as the ECS Baseline Manager (BLM) and Inventory/Logistics/Maintenance Manager (ILM) tools. XRP-II and ACCELL are COTS software configured with menus, screens, reports, and executables tailored for ECS.

XRP-II's Baseline Manager capabilities enable operators to:

- maintain records that identify what comprises baselined operational system configurations
- identify the versions of hardware and software items baselines contain and the devices, subsystems, and networks the items comprise
- record item interdependencies and sites to which baseline items are deployed
- keep chronological histories of baseline changes and traceability of items to predecessor versions and system releases

XRP-II's ILM capabilities enable operators to:

- track and maintain all of the key data pertaining to ECS contract purchased equipment including hardware, COTS software and software licenses, COTS documentation (hardware and software), spares and consumable items, and Government Furnished Equipment
- store and maintain detailed maintenance data on hardware, to the component level, including preventive and corrective maintenance
- keep chronological histories (a record of transactions) of receipt, installation, and relocation of inventory items

### 6.10.2 Rationale for Upgrade

Substantial risk was identified for continued evolution of the XRP-II COTS product to effectively support ECS requirements with changing operating systems and databases. The current database that is used by XPR has been at end of support for sometime. Obtaining new license keys for this version is questionable.

XPR-II is a product with significant risks. XRP-II is a customized COTS product that does not provide regular upgrades under a standard maintenance contract. Additional fees are required for upgrades such as for new operating system versions, normally covered by standard maintenance. Additionally, the database in use by the XRP-II vendor has been at end of support by the database vendor (Unify) for over two years. The vendor has identified that major database conversion, not covered by existing maintenance, would be needed to mitigate this risk.

To mitigate this long term risk, migration of both Baseline Manager (BLM) and Inventory Logistics Manager (ILM) functionality to Remedy is planned. The Architect's Office is working

on development of Remedy BLM and ILM tickets. The development work for the XRP-II migration to Remedy is currently planned to begin 12/2002.

A report writer product is expected to be required for full BLM reporting. A review of current report writer (SQR) and Crystal Report will be made during the migration.

The XRP-II resides on the CM Server. Current plans are that the CM Server will remain at Solaris 2.5.1 during the Solaris 8 Transition to continue to support the current version of XRP-II until an alternative implementation is identified.

#### 6.10.2.1 Vendor Support

The long term support risks and risk of overall product evolvability as described above is the driver for migration to a new product to support BLM and ILM.

#### 6.10.2.2 NCRs

There are a number of NCRs against XRP-II that are expected to be resolved with the migration to an alternative product.

#### 6.10.2.3 Features/Performance Upgrades

Product with more current, user-friendly GUI interfaces is planned.

#### 6.10.2.4 Cross Software Product Compatibility

The planned Remedy migration will enable use of Sybase as the BLM and ILM databases.

#### 6.10.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.10.2.6 Hardware Product Compatibility

There are no hardware product compatibility issues with this COTS product.

### 6.10.3 Operational Impact

There are no operational impacts other than the downtime required for the upgrade.

### 6.10.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product.

### 6.10.5 Security Impact

No security impacts have been identified for this COTS product.

### 6.10.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 6.10.7 External Drivers

No external drivers have been identified for this COTS product.

### 6.10.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.10.9 COTS Installation Sequence/Dependencies

Migration to the replacement product will be addressed in the PSR.

## 6.11 Oracle Enterprise Server/Oracle Developer

### 6.11.1 Description of COTS

Oracle Enterprise Server is a database engine used with the PDS subsystem. Oracle Developer was used to design the forms and other code used in the PDS subsystem for access to the PDS Oracle Enterprise Server database. An upgrade is currently in progress to bring Oracle Enterprise Server 8i to version 8.1.7.2, since version 8.1.6 reached end of bug fix support on 10/31/2001. This was planned as part of the PDS turnover.

### 6.11.2 Rationale for Upgrade

Version 8.1.7.x has bug fix support until 12/31/2003. However, Oracle has dropped support for SGI and version 8.1.7.x will be the terminal or final version delivered for SGI IRIX 6.5. A migration to an alternative host will be needed for the Oracle Enterprise Server in order to continue bug fix support for the PDS Oracle implementation. An upgrade to the most recent version is also planned during or with this migration. Oracle Enterprise Server 9i, version 9.2.0.1, has recently been released, but a review of the most current version and associated issues will take place before deciding on the final upgrade version.

#### 6.11.2.1 Vendor Support

Oracle has dropped support for the SGI IRIX operating system for future versions. The vendor has announced support of only 5 or 6 operating systems for Oracle Enterprise Server 9i. Solaris 8 is one of these operating systems. Port of the PDS database to Solaris is planned. Oracle Developer, which is only at EDC and the EDF, will also need to be migrated to Solaris. There is no more recent upgrade than the current Oracle Developer 1.6.1. If a more recent version is not available at the time of migration, the current version will be migrated.

#### 6.11.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 6.11.2.3 Features/Performance Upgrades

No specific features or performance enhancements are expected with migration and upgrade.

#### 6.11.2.4 Cross Software Product Compatibility

Both Oracle Enterprise Server and Oracle Developer will be migrated to the same operating system. There are no other cross software compatibility issues.

#### 6.11.2.5 Operating System Compatibility

The fact that no more future versions of Oracle will not be available for IRIX 6.5.x, will be resolved by migration to Solaris.

#### 6.11.2.6 Hardware Product Compatibility

There are no hardware product compatibility issues with this COTS product.

### 6.11.3 Operational Impact

There are no identified operational impacts to this upgrade other than the downtime require for the migration and upgrade.

### 6.11.4 Custom Code Impact

PDS custom code may need to be modified to access Oracle Enterprise Server on a migrated Solaris Server.

### 6.11.5 Security Impact

No security impacts have been identified for this COTS product.

### 6.11.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 6.11.7 External Drivers

No external drivers, other than the migration, have been identified for this COTS product.

### 6.11.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.11.9 COTS Installation Sequence/Dependencies

Upgrade of COTS will need to be coordinated with delivery of revised PDS custom code.

## 6.12 PopChart 4.0

### 6.12.1 Description of COTS

PopChart Server is a charting server based charting and graphing solution that accepts data from any database and delivers the chart to any browser. Server Pro auto-detects the browser capability and delivers the highest quality image the browser will display. This tool is part of the Dashboard DAAC Unique Extension (DUE) delivery.

### 6.12.2 Rationale for Upgrade

End of support for the current version (3.8) is 04/01/03, a year from the release of version 4.0.

#### 6.12.2.1 Vendor Support

Vendor provides continued maintenance for the previous version for a year after the new version is released. Support will end for version 3.8 in April of 2003.

#### 6.12.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 6.12.2.3 Features/Performance Upgrades

No new features or performance enhancements are expected with this COTS upgrade.

#### 6.12.2.4 Cross Software Product Compatibility

There are no cross software product compatibility issues with this upgrade.

#### 6.12.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.12.2.6 Hardware Product Compatibility

There are no hardware product compatibility issues with this COTS product.

### 6.12.3 Operational Impact

There are no operational impacts expected related to this upgrade other than the downtime required for the actual upgrade.

### 6.12.4 Custom Code Impact

There may be some minor impact to Dashboard custom code. One or more DAACs may need to assist with DUE custom code testing.

### 6.12.5 Security Impact

No security impacts have been identified for this COTS product.

### 6.12.6 Licensing Impact

License keys are required for this COTS product. Procedures to obtain/install the license keys will be included with the PSR.

### 6.12.7 External Drivers

Additional licenses will need to be purchased for PSR support of upgrade. No copies of PopChart have been purchased for the EDF, because of DUE status. Support for COTS upgrade of product will require procurement of new licenses. Procurement will need to precede start of the upgrade by two to three months.

### 6.12.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.12.9 COTS Installation Sequence/Dependencies

No installation sequence dependencies or other COTS product dependencies have been identified for this COTS product.

## 6.13 RogueWave SourcePro Libraries

### 6.13.1 Description of COTS

The RogueWave Libraries formerly named Tools.h++, ToolsPro.h++ and DBTools.h++ have been renamed by the vendor as SourcePro Core, SourcePro Net and SourcePro DB respectively. They will be referred to by these new names in this section.

SourcePro Core supports a wide range of C++ development, allowing applications to be deployed across multiple operating systems with minimal code changes. SourcePro Core includes a robust and complete implementation of the ANSI/ISO Standard C++ Library specification, extends the ANSI Standard C++ Library with additional functionality, and offers powerful components for building high-performance multithreaded applications. In addition, SourcePro Core allows businesses to leverage their existing C++ investments by facilitating the easy integration of XML functionality into C++ applications.

Rogue Wave® SourcePro™ Net facilitates the development of applications designed to share information through efficient network communication. SourcePro Net provides the building blocks developers need for stable, reliable, object-oriented network application development.

Rogue Wave® SourcePro™ DB provides a solution for object-oriented relational database access in C++. SourcePro DB has a layered architecture that abstracts away the complexity of writing database applications, yet allows developers to drill down to the native database client libraries if needed. By supplying a consistent, high-level C++ interface to relational databases, SourcePro DB helps speed development and reduces database-programming complexity.

### 6.13.2 Rationale for Upgrade

Edition 2 of these three libraries is in used in ECS custom code. Edition 2 will reach end of support on 01/10/2003.

#### 6.13.2.1 Vendor Support

Edition 3 libraries of the SourcePro products were released 01/10/2002. Support extends for the previous version one year from release. Edition 2 libraries will reach end of support on 01/10/2003.

#### 6.13.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 6.13.2.3 Features/Performance Upgrades

No new features or performance enhancements are expected with this development COTS upgrade.

#### 6.13.2.4 Cross Software Product Compatibility

Version 3 libraries provide support for current C++ compilers: Forte 6.1 on Solaris 8 and MIPSpro 7.3.1.2 on IRIX 6.5. Upgrade of Sybase Open Client 12.5 would also need to be scheduled for full RogueWave support of the SourcePro DB implementation.

#### 6.13.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.13.2.6 Hardware Product Compatibility

There are no hardware product compatibility issues with this COTS product.

### 6.13.3 Operational Impact

No operational impact is expected other than the downtime to install the custom code updates resulting from the Rogue Wave upgrade.

### 6.13.4 Custom Code Impact

A delivery of custom code would need to be scheduled and delivered with the RogueWave SourcePro upgrades.

### 6.13.5 Security Impact

No security impacts have been identified for this COTS product.

### 6.13.6 Licensing Impact

License keys are required for this COTS product for developers only. There are no run-time license keys.

### 6.13.7 External Drivers

No external drivers have been identified for this COTS product.

### 6.13.8 Other Impacts/Comments

No other impacts have been identified for this COTS product.

### 6.13.9 COTS Installation Sequence/Dependencies

If OpenClient 12.5 is upgraded, this COTS product should be delivered at the same time as the custom code delivery, which includes OpenClient 12.5, and SourcePro Edition 3 upgrades.

## 6.14 IRIX Patch Upgrade

### 6.14.1 Description of COTS

SGI provides operating system patch updates as minor operating system releases on a quarterly basis in order to provide patch baseline consistency for IRIX 6.5 hosts. The most recently released quarterly version will be used for this patch upgrade. IRIX 6.5.17 is due for release mid to late August 2002 and IRIX 6.5.18 is due to be released 3 months later.

### 6.14.2 Rationale for Upgrade

The rationale for upgrading the ECS IRIX operating system baseline to IRIX 6.5.17 or 6.5.18 operating system patch version is that IRIX Operating System bug fixes are not provided for IRIX Operating System versions older than 1 year. IRIX 6.5.14, the current baseline IRIX patch version, was released 10/17/2001 and will be older than one year as of the fall of 2002.

### 6.14.3 Vendor Support

Vendor has identified that bug fixes are not available for IRIX Operating System patch levels older than one year. IRIX 6.5.14, the current baseline IRIX patch version, was released 10/17/2001 and will be older than one year as of the fall of 2002.

#### 6.14.3.1 NCRs

There are no NCRs against this product.

#### 6.14.3.2 Features/Performance Upgrades

No specific features or performance enhancements are expected from this upgrade.

#### 6.14.3.3 Cross Software Product Compatibility

While most COTS products, such as Sybase, are certified for IRIX 6.5.x, there are three COTS products that certify software versions at the patch or "dot" release version levels. These COTS products are Legato Networker, Rational ClearCase and AMASS. Testing will include compatibility testing for Legato Networker and Rational ClearCase, although the vendor may not have formally certified for IRIX 6.5.17 or 6.5.18 patch release. Baseline versions of these COTS products have not been certified by the vendors for some periods in the upgrade life cycle and no problems have resulted.

An AMASS upgrade to 5.3 is planned in the summer of 2002. Certification for the planned IRIX 6.5.x release will be considered in the planning, i.e., an earlier 6.5.x release may be considered for upgrade or vendor may be asked to certify AMASS 5.3 on a later IRIX 6.5.x release.

#### 6.14.3.4 Operating System Compatibility

All SGI hardware will be upgraded to the delivered IRIX 6.5.x patch level.

#### 6.14.3.5 Hardware Product Compatibility

There are no known hardware compatibility issues with this upgrade.

### 6.14.4 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the planned PSRs.

### 6.14.5 Custom Code Impact

There are no identified custom code impacts associated with this COTS product. Custom code will be tested for compatibility.

### 6.14.6 Security Impact

No security impacts have been identified for this COTS product. However, updated security patches are generally included in these "patch" releases.

### 6.14.7 Licensing Impact

There are no licensing issues with this upgrade.

### 6.14.8 External Drivers

Contract extension dates will mandate delivery schedule.

### 6.14.9 Other Impacts/Comments

No additional impacts are expected from this upgrade.

### 6.14.10 COTS Installation Sequence/Dependencies

There are no current installation sequence or other dependencies to this upgrade.

## 6.15 Solaris 8 Patch Upgrade

### 6.15.1 Description of COTS

Sun Microsystems support patch upgrades with methods:

- Solaris CD update, i.e., Solaris 8 02/01 CDs were used for the original Solaris 8 transition.
- Sun recommended patch bundles.
- Solaris 8 patches recommended in weekly review of Sun Alerts at CUT Team meeting.

Sun recommends update with most recent CD installation, but with the release of Solaris 9, no additional CD updates will be provided. The most recent Solaris 8 recommended batch bundle will be reviewed during the planning phase of this upgrade. Additional non-bundled patches that have been identified in the CUT Alert process will also be reviewed based on recommendations.

### 6.15.2 Rationale for Upgrade

Obtain the most recent patches for the operating system, compilers, and other bundled freeware to mitigate operational risk.

#### 6.15.2.2 Vendor Support

Sun publishes patches on a daily basis. Sun updates a recommended patch bundle and other patches on at least a weekly basis. This information is published at http://sunsolve.sun.com/patches/. This information and will be used as a starting point for the Solaris patch review for the Solaris 8 Patch PSR.

#### 6.15.2.3 NCRs

There are no NCRs against this product.

#### 6.15.2.4 Features/Performance Upgrades

No additional features or performance enhancements are expected from this upgrade.

#### 6.15.2.5 Cross Software Product Compatibility

COTS products baselined and certified for Solaris 8 should not be impacted by patch upgrades. All product vendors certify for the major version of Solaris 8.

#### 6.15.2.6 Operating System Compatibility

All Sun hosts will be patched to the same patch level, including the x0sas01 and x0drs0x hosts, which were delivered with Solaris 8 early because of schedule/COTS software requirements. These systems are installed with Solaris 8 update CD 07/01 and the patches that were identified at that time. These machines were not updated to the final Solaris 8 update CD 02/02 and the final Solaris 8 patch baseline. This patch upgrade will bring all Solaris 8 machines to the Solaris 8 update 02/02 level and final Solaris 8 Transition patch baseline. Additional patches will be provided for all Solaris 8 hosts.

#### 6.15.2.7 Hardware Product Compatibility

There are no known hardware compatibility issues with this upgrade.

### 6.15.3 Operational Impact

No operational impacts have been identified beyond installation downtime and impacts identified in the planned PSRs.

### 6.15.4 Custom Code Impact

There are no identified custom code impacts associated with this COTS product. Custom code will be tested for compatibility.

### 6.15.5 Security Impact

No security impacts have been identified for this COTS product.

### 6.15.6 Licensing Impact

There are no licensing issues with this upgrade.

### 6.15.7 External Drivers

Contract extension dates will mandate delivery schedule.

### 6.15.8 Other Impacts/Comments

No additional impacts are expected from this upgrade.

### 6.15.9 COTS Installation Sequence/Dependencies

There are no current installation sequence or other dependencies to this upgrade.

## 6.16 JRE 1.4

### 6.16.1 Description of COTS

The Java Runtime Environment (also known as the Java Runtime Environment or JRE) consists of the Java virtual machine, the Java platform core classes, and supporting files. It is the runtime part of the Java Development Kit -- no compiler, no debugger, and no tools. The JRE is the smallest set of executables and files that constitute the standard Java platform.

### 6.16.2 Rationale for Upgrade

End of support for version 1.3.1 and security alerts are the primary drivers for upgrade.

#### 6.16.2.1 Vendor Support

Sun has dropped support for version 1.3.1_01 and lower and Sun has issued a security alert against tem. SGI provides jre only as a courtesy (no formal support) and there are no support issues with 1.3.1 on SGI. However, the same version is used on both Sun and SGI whenever possible. Therefore both Sun and SGI will be upgraded. Sun has released jre 1.4. SGI is planning a release of version 1.4. The most recent 1.4.x version available from each vendor will be utilized.

#### 6.16.2.2 NCRs

No NCRs are identified in association with this COTS product.

#### 6.16.2.3 Features/Performance Upgrades

Upgrades are not planned to implement any specific new features or performance.

#### 6.16.2.4 Cross Software Product Compatibility

Java 1.4 JRE will deliver a number of bundled Java products that were previously delivered as separate products. Analysis will be performed to identify any Java modules delivered with this ;bundle that were delivered separately. Custom code updates will be made as schedule allows to incorporate this new bundling delivery method.

A number of freeware products are dependent on jre, including JDOM, JAF, JavaMail, JDBC, jConnect. No incompatibilities have been identified with current and planned upgrades to these freeware products, but this issue will be continue to be tracked as compatibility statements are provided for these dependent products. Testing during the COTS upgrade process will also validate compatibility.

A JRE 1.4 plug-in for Netscape Communicator will be planned with the delivery of Netscape Communicator 7.x.

#### 6.16.2.5 Operating System Compatibility

There are no operating system compatibility issues with this upgrade.

#### 6.16.2.6 Hardware Product Compatibility

There are no identified hardware impacts associated with this product.

### 6.16.3 Operational Impact

No operational impacts have been identified other than the installation downtime as identified in the COTS product PSR.

### 6.16.4 Custom Code Impact

The following custom code used JRE:

- Java DAR Tool
- Data Pool
- Dashboard
- BMGT
- PDS

Testing will need to occur and some code modification may need to be made to accommodate the JRE upgrade and Java module bundling.

### 6.16.5 Licensing Impact

There are no licensing issues with delivery of JRE to the DAACs. It is freeware provided by SunSoft.

### 6.16.6 Security Impact

Upgrade would resolve issues with the following Sun Security Alerts:

Sun Alert #43546: Security Vulnerability in Java(TM) Runtime Environment Bytecode Verifier

### 6.16.7 External Drivers

No external drivers have been identified for this COTS product.

### 6.16.8 Other Impacts/Comments

New custom code delivery will be required for implementation of this upgrade.

### 6.16.9 COTS Installation Sequence/Dependencies

The custom code updates would need to be installed with the COTS product upgrade.

## 6.17 Sybase ASE EBF Upgrade

### 6.17.1 Description of COTS

Some COTS products have a historical pattern of requiring patches or emergency bug fixes (EBF) on a consistent basis. These are generally high impact complex COTS products. Upgrades for the following COTS products are expected based on this historical pattern over the length of the contract.

- Sybase ASE EBF upgrade
- Sybase Open Client EBF upgrade
- IRIX 6.5.x patch delivery

### 6.17.2 Rationale for Upgrade

Major products, such as Operating Systems and Database Products, have historically required patch upgrades or Emergency Bug Fixes (EBFs) every 6 to 12 months. While not all patches or EBFs are needed, some are identified as offering significant risk mitigation. When these are identified, either through vendor notices and alerts or as fixes to NCRs in the EDF, EBF and patch upgrades will be scheduled.

#### 6.17.2.1 Vendor Support

Use of vendor patches and EBFs to mitigate risk is part of the COTS upgrade process.

#### 6.17.2.2 NCRs

The need for patches or EBFs may be identified in an NCR.

#### 6.17.2.3 Features/Performance Upgrades

Performance or features enhancement may be part of patch or EBF upgrade.

#### 6.17.2.4 Cross Software Product Compatibility

Software compatibility issues will be reviewed before proceeding with this upgrade.

#### 6.17.2.5 Operating System Compatibility

Operating System compatibility will be reviewed before proceeding with this upgrade.

#### 6.17.2.6 Hardware Product Compatibility

Hardware compatibility will be reviewed before proceeding with this upgrade.

### 6.17.3 Operational Impact

Operational impacts will be reviewed before proceeding with this upgrade..

### 6.17.4 Custom Code Impact

Custom code impacts will be reviewed before proceeding with identified patch or EBF upgrade.

### 6.17.5 Security Impact

Security impacts will be reviewed before proceeding with this upgrade.

### 6.17.6 Licensing Impact

License impacts will be reviewed before proceeding with this upgrade..

### 6.17.7 External Drivers

External drivers will be reviewed before proceeding with this upgrade..

### 6.17.8 Other Impacts/Comments

Other impacts will be reviewed before proceeding with this upgrade.

### 6.17.9 COTS Installation Sequence/Dependencies

Installation sequence or other dependencies will be reviewed before proceeding with this upgrade.

# 7. COTS Hardware Upgrades

This section identifies the planned COTS hardware additions and upgrade through January 2003. An ESD received from the government after the submission of this document may alter this plan. A substantial number of COTS hardware upgrades are being proposed to begin in the Volume 7 period. However, this have not been currently approved and therefore are not currently included in this section.

Hardware COTS upgrades are performed in accordance with the Work Instructions SE-1-019-1, which details the work required from design, through procurement to the receipt of the COTS product. Once this process is complete, a CCR is created for installation and submitted to the CCB for review in accordance with the CM-1-004-1. The COTS hardware upgrades are reviewed with the DAAC at the weekly M&O CCB before approval. If actions are required to complete the CCR, these actions are assigned to the DAAC and reviewed by the CCB.

Individual hardware failures are tracked by a Maintenance Work Order (MWO). Identification of operational problems, related to performance and functionality are tracked through the COTS software NCR process.

## 7.1 ASTER Ingest Tape Drive

### 7.1.1 Description of COTS

ECS will use the SONY GY-8240WUD tape drive for ASTER Ingest. ASTER GDS will provide the ASTER Level 1 Data Products to ECS on the DTF2 tape. This drive will replace the standalone SD3 tape drive unit on e0dis01 at EDC and p2dis02 in the PVC.

### 7.1.2 Rationale for Upgrade

The SD3 drive has reached end-of-life. ASTER GDS selected the Sony DTF2 GY-8240 as the replacement. For tape compatibility, ECS will use the same hardware and tapes..

#### 7.1.2.1 Hardware/Software Product Compatibility

The GY-8240 requires a modification to the Sun file, /kernel/drv/st.conf. A replacement file was provided by SONY and if documented in the PSR for the COTS.

#### 7.1.2.2 Equipment End of Life/End of Support

There are no equipment end of life/end of support issues associated with these upgrades.

#### 7.1.2.3 Features/Performance Upgrades

The GY-8240 will allow additional functionality including media failure recovery. The performance of the drive is rated up to 24 MB/sec.

### 7.1.3 Software Impact (COTS/Custom)

The tape works with the Custom code and will not have software impacts.

### 7.1.4 Network Impacts

The new tape drive may need to be added to the network. This would allow access to the log files in the event of a hardware failure.

### 7.1.5 DAAC Facility Impacts

Power and table space are needed for the new tape drives

### 7.1.6 Transition Impacts

No transition impacts are expected.

### 7.1.7 External Drivers

ASTER GDS will provide the L1 Data Products on DTF2 tape requiring ECS to be compatible.

### 7.1.8 Other Impacts/Comments

Additional disk space has been added to the hosts to allow for 2 days of tape downloads.

### 7.1.9 COTS Installation Sequence/Dependencies

The st.conf file must be modified, and the system rebooted before the tape will be recognized properly by the system.

### 7.1.10 Replacement Matrix

Table 8-1 provides the replacement matrix information related to the SD3 to DTF2 tape replacement.

***Table 7-1. GY-8240 DTF2 Tape Replacement Matrix***

| Functional Name | Hostname | Pre-transition Configuration | Post-transition Configuration | Action |
|---|---|---|---|---|
| DTF2 | e0dis02 | SD-3 | GY-8240 | replacement |
| RAID | e0dis02 | SSA | A5000 | replacement |
| DTF2 | p2dis02 | SD-3 | GY-8240 | replacement |
| RAID | p2dis02 | STK 9176 | A5000 | replacement |

## 7.2 External Subsetter Host Installation

### 7.2.1 Description of COTS

The SUN V880 server will be installed at EDC to support the External Subsetter function. This host will be installed as a DAAC Unique Extension (DUE).

### 7.2.2 Rationale for Upgrade

The External Subsetter will expand the current ECS services by enabling users to subset ordered products for electronic distribution.

#### 7.2.2.1 Hardware/Software Product Compatibility

Solaris 8 02/02 Operating System or above is required for the V880.

#### 7.2.2.2 Equipment End-of-Life/End-of-Support

No end-of-life or end-of-support issues are applicable to this implementation.

#### 7.2.2.3 Features/Performance Upgrades

Expanded electronic distribution.

#### 7.2.2.4 Software Impact (COTS/Custom)

Volume Manager 3.2 is the minimum release compatible with the Sun Fire CPU series.

### 7.2.3 Network Impacts

The server will be connected to the Gigabit □thernet network and the private network. The system will have two direct connections to the SAN.

### 7.2.4 DAAC Facility Impacts

The V880 used 3 standard power supplies. Floor space and cooling will be needed.

### 7.2.5 Transition Impacts

N/A.

### 7.2.6 External Drivers

Delivery and installation of the External Subsetter Appliance (HEW) is to be done independently of ECS delivery and installation process and it's the responsibility of the University of Alabama

### 7.2.7 Other Impacts/Comments

No other impacts have been identified at this time.

### 7.2.8 COTS Installation Sequence/Dependencies

Installation of the External Subsetter Custom Code is delivered as two tar files. This is supported with Solaris 8 under 6A06 baseline.

### 7.2.9 Replacement Matrix

Table 7-2 provides replacement matrix information related to the External Subsetter Implementation.

***Table 7-2. External Subsetting Host Matrix***

| Functional Name | Hostname | Pre-transition Configuration | Post-transition Configuration | Action |
|---|---|---|---|---|
| External Subsetter | e0dus01 | None | V880 | new |

## 7.3 Initial SAN Installation for NSIDC

### 7.3.1 Description of COTS

An STK SAN will be installed at NSIDC with 1.8 TB of raw disk. The disks will be configured to have a RAID 5 LUN with 7x 180 GB drives, a RAID 1 LUN for the metadata mirror and one hot spare. The metadata host will be installed as the RAID Manager, the QFS host, and the SANtricity Manager. A private network will be used for the metadata transfer..

#### 7.3.1.1 Hardware/Software Product Compatibility

The STK SAN is provided as a turn-key system, therefore all parts are compatible.

#### 7.3.1.2 Equipment End-of-Life/End-of-Support

There are no end-of-life/end-of-support issues associated with this upgrade.

#### 7.3.1.3 Features/Performance Upgrades

No additional features or performance other than that identified above are expected from this upgrade.

### 7.3.2 Software Impact (COTS/Custom)

No custom code or COTS software impacts are expected.

### 7.3.3 Network Impacts

No Network impacts are expected.

### 7.3.4 DAAC Facility Impacts

The RAID will need 2 additional NEMA L6-30 power plugs and the metadata server will require a standard 20 amp circuit. Floor space will needed for both the RAID and the server.

### 7.3.5 Transition Impacts

Once the SAN is in place, all data on the disks associated with n0dig06 for the file systems /pdssa and /pdsis will need to be transitioned to the new unit.

### 7.3.6 External Drivers

No external drivers have been identified.

### 7.3.7 Other Impacts/Comments

No other impacts have been identified with this upgrade.

### 7.3.8 COTS Installation Sequence/Dependencies

The JNI HBA cards are required in the SUN host for connectivity to the SAN. The SGI hosts will need the Qlogic HBA.

### 7.3.9 Replacement Matrix

Table 7-3 provides detailed information on the related SAN Processing Installation.

***Table 7-3. NSIDC Initial SAN***

| Functional Name | Hostname | Pre-transition Configuration | Post-transition Configuration | Action |
|---|---|---|---|---|
| STK RAID | G0spg11 | None | 10x180 GB drive | New install |
| Metadata Server | G0sas01 | None | SUN 450 | New install |

## 7.4 SAN upgrade at EDC and NSIDC.

### 7.4.1 Description of COTS

EDC and GSFC will receive an additional 36TB of raw disk space to be augmented the SAN. The FSMS servers and the ACM machines will be added to the SAN.

### 7.4.2 Rationale for Upgrade

The volume of electronic distribution orders has increased and more disk space is required to support this function.

#### 7.4.2.1 Hardware/Software Product Compatibility

Since QFS is a SUN priority file system, the Tivioli NFS product, SANergy, will be installed on the FSMS and ACM hosts to provide connectivity to the metadata stored on the SUN metadata server.

#### 7.4.2.2 Equipment End-of-Life/End-of-Support

No end-of-life or end-of-support issues are applicable to this implementation.

#### 7.4.2.3 Features/Performance Upgrades

The additional connections to the SAN on FSMS and ACM servers will allow access to the SAN through a local host connection, this will increase the read/write performance one the metadata has been updated.

### 7.4.3 Software Impact (COTS/Custom)

No custom code or COTS software impacts are expected.

### 7.4.4 Network Impacts

No Network impacts are expected.

### 7.4.5 DAAC Facility Impacts

The DAAC will need 2 additional NEMA L6-30 power connections to support the RAID.

### 7.4.6 Transition Impacts

File system layouts will need to be determined. This additional space could be configured as one or multiple file systems.

### 7.4.7 External Drivers

No external drivers have been identified.

### 7.4.8 Other Impacts/Comments

No other impacts have been identified.

### 7.4.9 COTS Installation Sequence/Dependencies

No COTS installation sequence/Dependencies have been identified.

### 7.4.10 Replacement Matrix

Installation involves additions. No replacements are being made in this activity.

## 7.5 Synergy III Hardware Upgrades

### 7.5.1 Description of COTS

ECS has a storage area network (SAN) installed at EDC, LaRC, GSFC, and the PVC. The Synergy III proposal will add a SAN to NSIDC and increase the storage capacity of the SAN at the other DAAC sites as well as increase the number of hosts attached to the SAN. The storage capacity increases are as follows:

- EDC 36 TB
- GSFC 54 TB
- NSIDC 1.8 TB
- LaRC 18 TB.

### 7.5.2 Rationale for Upgrade

Upgrade will occur to provide additional storage capacity for Synergy III.

#### 7.5.2.1 Hardware/Software Product Compatibility

The D178 RAID controllers included in the Synergy III proposal require a new version of storage management software. The new version will be Santricity 8.00.G2.01 which will replace Symplicity Storage Manager. This upgrade is discussed in section 0, 4.18 SANtricity 8.00.G2.01.

#### 7.5.2.2 Equipment End of Life/End of Support

There are no equipment end of life/end of support issues associated with these upgrades.

#### 7.5.2.3 Features/Performance Upgrades

The D178 RAID included in the Synergy III is a 2 Gb/s fibre channel controller. The current STK 9176 controller operates at a rate of 1 Gb/s.

### 7.5.3 Software Impact (COTS/Custom)

The new RAID will require Santricity 8.00.G2.01, discussed in section 0, 4.18 SANtricity 8.00.G2.01.

### 7.5.4 Network Impacts

Under Synergy III, the AMASS hosts (x0acgxx, x0drgxx) which are origins will be connected to the SAN fabric and their interface to the production network will be converted to gigabit ethernet in cases where it was not previously gigabit. Also, these hosts will be connected to the private SAN fast ethernet network. In addition, a new host, n0sas01, will be added at NSIDC.

### 7.5.5 DAAC Facility Impacts

Power and floor space are needed for the new RAID controllers, supporting equipment, and host.

### 7.5.6 Transition Impacts

No transition impacts are expected.

### 7.5.7 External Drivers

No external drivers have been identified.

### 7.5.8 Other Impacts/Comments

No other impacts have been identified.

### 7.5.9 COTS Installation Sequence/Dependencies

No other dependencies have been identified.

### 7.5.10 Replacement Matrix

Installations are not replacements.

# Appendix A. Weekly CUT Matrix Example

***Table A-1. Weekly CUT Matrix Example***

| Product Name | B/LVersion | Planned Upgrade Version | Upgrade Rationale | Assoc. NCRs | Dev. Kick-off * | Turnover to Test Date * | Turnover to M&O date * | PSR Date * | Status as of 07/10/2002 (unless otherwise noted) |
|---|---|---|---|---|---|---|---|---|---|
| Apache Web Server | 1.3.22 | 1.3.26 | Security vulnerability | ECSed34597 | 06/24/2002 | 06/25/2002 | TBD | TBD | Upgrade to be delivered as TE because of severity 1 NCR. PSR testing in progress. |
| mod-SSL | 2.8.5-1-3.22 | 2.8.9-1.3.26 | Compatibility with planned Apache 1.3.26 upgrade | None | 06/24/2002 | 06/25/2002 | TBD | TBD | Upgrade to be delivered as TE because of severity 1 NCR. PSR testing in progress. |
| mm | 1.1.3 | 1.1.3 | Compatibility with planned Apache 1.3.26 upgrade | None | 06/24/2002 | 06/25/2002 | TBD | TBD | Upgrade to be delivered as TE because of severity 1 NCR. PSR testing in progress. |
| SQS (Spacial Query Server) | 3.2.2 | 3.4.2.4 (bundled with OC 12.5 EBF 10085) | Version 3.4 released 11/01/2000. End of Support identfied as 03/2002. | ECSed23719; ECSed22897; ECSed21487 | 01/03/2002 | ~~04/04/2002~~ 04/30/2002 | ~~04/25/2002~~ ~~05/29/2002~~ ~~06/27/2002~~ 07/12/2002 | ~~04/30/2002~~ ~~06/28/2002~~ 07/25/2002 | 06/19/2002: There are no specific SQS or Sybase issues or errors, problems identified thought to be related to custom code implementation. SQS/Sybase will continue to be tested. in the PVC until the S3 and Data Pool issues are worked off. |
| NTP Testing for IRIX 6.5.14 | | | | None | n/a | n/a | n/a | TBD | 05/22/2002: Testing completed successfully. Other PSR revisions being made before publication. |
| WhatsUp Gold | n/a | 7.02 | To meet former HP OpenView Requirements | None | 06/07/2002 | ~~08/13/2002~~ 09/05/2002 | ~~09/16/2002~~ 10/07/2002 | ~~10/22/2002~~ 10/18/2002 | 06/26/2002: M&O has identified PC for testing. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SGI BDS/HiPPI | 2.1p0 | BDS 2.4/HiPPI 4.0 (Origins only) | None | None | 06/21/2002 | 07/15/2002 | 08/06/2002 | 08/15/2002 | 06/19/2002: BDS 2.1 is at end of life and upgrade offers performance gains. HiPPI 4.0 (for Origins only) will be formally delivered as PSR. Version had been installed at the DAACs as an emergency, but not formally PSRed. |
| Anlpassword Replacement | 2.3 | Npassword 2.05 | Corruption problem with Anlpassword 2.3 | None | 05/22/2002 | 07/08/2002 | 07/16/2002 | 07/26/2002 | 06/19/2002: Npassword source code on Sun has been compiled and installed on the Miami. The test procedure is being developed. Problems with the install and compile on the SGI machine have been resolved and Npassword has been installed on SGI. |
| Veritas Volume Manager | 3.0.4 | 3.2 | Support for Subsetter host at GSFC and EDC | None | 04/12/2002 | ~~05/21/2002~~ 05/15/2002 | ~~05/21/2002~~ ~~06/25/2002~~ 07/24/2002 | ~~04/01/2002~~ ~~07/01/2002~~ 08/06/2002 | 05/29/2002: CCR completed for new install instance and upgrade instance. Install of new installation is completed in VATC//PVC. Install of upgrade is in progress. |
| Sybase ASE for Solaris | 11.9.2 (Sun)/11.9.3 (SGI) | 12.5.0.1 w/EBF10235 | End-of-Support | None | 01/16/2002 | 05/07/2002 04/30/2002 | ~~07/11/2002~~ ~~08/29/2002~~ 09/27/2002 | ~~08/27/2002~~ 10/10/2002 | 06/26/2002: DDM will be upgrading to include EBF 10235 for Solaris Sybase ASE 12.5. |
| SGI Sybase ASE | 11.9.3 | 12.5.01 w/ EBF10245 | | None | 02/06/2002 | ~~04/29/2002~~ 05/03/2002 | ~~05/23/2002~~ ~~06/27/2002~~ 07/14/2002 | ~~05/31/2002~~ ~~06/27/2002~~ 07/26/2002 | 06/26/2002: DDM will be upgrading to include EBF 10245 for SGI Sybase ASE. |
| Sybase Central | 3.0 | 4.0 (bundled with ASE 12.5) | End-of-Support | None | 01/31/2002 | ~~06/05/2002~~ 05/03/2002 | ~~08/17/2002~~ 09/27/2002 | ~~08/27/2002~~ 10/10/2002 | 06/05/2002: PVC installations are completed. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sybase Replication Server | 11.5.1 | 12.5 | End-of-Support | None | 01/28/2002 | ~~3/18/2002~~ 04/30/2002 | ~~3/28/2002~~ ~~08/29/2002~~ 09/27/2002 | ~~08/29/2002~~ ~~09/05/2002~~ 10/10/2002 | 06/05/2002: PVC installation has been completed for version 12.1. Awaiting results of IDG Cell testing of 12.5 |
| jConnect | 5.2 | 5.5 w/EBF10349 | Certification/compatibility with Sybase ASE 12.5 | None | ~~03/25/2002~~ 02/20/2002 | ~~05/01/2002~~ 04/23/2002 | ~~06/04/2002~~ ~~06/26/2002~~ 07/12/2002 | ~~06/17/2002~~ 08/23/2002 | 06/19/2002: EBF 10349 will be included with delivery. CCR will be drafted to include. |
| Tivoli Client & Server | 3.6.3/3.6.2 | Framework 3.7.1/ TEC 3.7/SW.Dist. 4.1/ Distr. Mon. 3.7.1 | End-of-Support expected by end of year. Upgrade required for Solaris 8. | None | 04/01/2002 | ~~06/18/2002~~ ~~08/13/2002~~ 08/01/2002 | ~~07/10/2002~~ ~~08/30/2002~~ 08/22/2002 | ~~07/17/2002~~ ~~09/03/2002~~ 08/30/2002 | Installation in Fuctionality Lab in progress. |
| Autosys | 3.5 | 3.5 with Sybase ASE 12.0 patches | To meet schedule, Autosys 3.5 with Sybase ASE 12.0 patches will be delivered. | None | 02/13/2002 | ~~06/27/2002~~ ~~07/15/2002~~ 07/24/2002 | ~~08/08/2002~~ ~~08/23/2002~~ 09/04/2002 | ~~08/22/2002~~ ~~09/01/2002~~ 09/18/2002 | 06/26/2002: CCR for installation in the Functionality Lab has been submitted. |
| Sybase ASE for Autosys 3.5 | 11.9.2 | 12.0.0.5 IR | End-of-Support for version 11.9.2. Autosys 3.5 only supports through ASE 12.0. Autosys 4.0 GA release delayed. | None | 06/21/2002 | 07/24/2002 | 09/04/2002 | 09/19/2002 | 06/26/2002: Additional Solaris 8 patches have been identified in Sybase 12.0 for Solaris alert. These are being downloaded. CCR for installation of one of these pacthes is being drafted. |
| SQR (Brio Report) | 4.3.4 | 6.2 | Product at end-of-life. Upgrade will support current and future OpenClient/ASE versions through 12. Version | None | 08/01/2002 | 09/04/2002 | 10/04/2002 | 10/14/2002 | 06/19/2002: Considering delay of delivery until XRP-II report writer identified. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 12. Version support Solaris 8. | | | | | | |
| Netscape Communicator | 4.78 | 7.x | End-of-Support expected before end of contract. | None | 04/24/2002 | 08/07/2002 | 08/30/2002 | 09/13/2002 | 05/29/2002: Preview version of Netscape 7.0, based on Mozilla 1.0 has been released. RTSC recommends this version for stability. |
| ClearCase | 4.1 | 5.0 (2002) | End-of-Support 11/01/2002. Support for IRIX 6.5.14 (support for 6.5.6 discontinued with 5.0) | None | ~~06/03/2002~~ 06/28/2002 | ~~07/02/2002~~ 07/30/2002 | ~~0722/2002~~ 08/29/2002 | ~~08/09/2002~~ 09/09/2002 | 06/26/2002: Clear Case 5.0 media has been recieved. ClearCase team has been notified. |
| DDTS | 4.1 | 4.7 | Current version at end of life/end of support. | None | 04/01/2002 | ~~05/14/2002~~ 06/07/2002 | ~~06/05/2002~~ 06/20/2002 | ~~06/18/2002~~ 07/02/2002 | PSR completed on 7/02/2002 |
| Oracle Enterprise Server | | | | None | TBD | TBD | TBD | TBD | 06/26/2002: Document is beng reformatted to conform to current PSR template. |
| Sendmail Commercial | Solaris 8 Bundled version | 1.2.2 | Commercial package procured for additional security for Solaris 8 | None | ~~06/07/2002~~ 06/28/2002 | ~~08/20/2002~~ 08/11/2002 | ~~09/23/2002~~ 10/14/2002 | ~~10/01/2002~~ 10/21/2002 | 06/19/2002: Version 1.2.2 will be utilized because of schedule risk. Review of RTSC concerns in progress. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Symplicity Storage Manager | | | | None | 06/17/2002 | 07/08/2002 | 0712/2002 | 0723/2002 | 06/19/2002: New Sun D178 RAID controllers for xxsas01 hosts requires this upgrade. Task moved to 02 COTS delivery instead of extension COTS delivery. |
| JDOM | 0.7beta | 0.8beta | Synergy III design requirements | None | TBD | TBD | TBD | TBD | 06/26/2002: Need for upgrade to JDOM 0.8 identified to support Synergy III. Delivery targeted for mid to late November. |
| Synergy III COTS | n/a | TBD | Needed for Synergy III | None | TBD | TBD | TBD | TBD | 06/26/2002: The following COTS are still under consideration: Perl module, XML::Xerces 1.7.0-1 Apache Xerces C++ XML Parser 1.7.0 OpenLDAP 2.1.2 |
| The following COTS upgrades are proposed, but not currently finalized and entered into P3. | | | | | | | | | |
| COTS Associated with proposed STK 9940b Drives Implementation | | | | | | | | | |
| AMASS | 5.2.1 | 5.3 | Support for STK 9940b drives for performance enhancements | None | TBD | TBD | TBD | TBD | 05/29/2002: AMASS 5.3 will included support for STK 9940b drives. Availability of AMASS 5.3 is targeted for 8/2002. |
| ACSLS | 6.0.1 | 6.1 | Support for STK 9940b drives for performance enhancements. Full version update provides additional year before end of support will occur. | None | TBD | TBD | TBD | TBD | 06/19/2002: Version 6.1, targeted for release at the end of this month (June) will support 9940b drives. The 6.1 upgrade will be delivered instead of the patch fpr the older version to provide additional time before end of life occurs. |
| SGI APD | Bundled as freeware with OS | 2.1 | APD for 9940b drives needs to be included | TBD | TBD | TBD | TBD | TBD | 06/19/2002: Asynchronous Personality Daemon (APD) 2.1 is required to support this delivery. Procurement is necessary and has been included with the HW BOM. |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SGI Patch 4536 | N/A | Additional patch #4536 | | | TBD | TBD | TBD | TBD | 06/19/2002: SGI Patch 4536 is required to support implemenation. |
| Future Upgrades | | | | | | | | | |
| IRIX Patch Bundle | 6.5.x | 6.5.x patches | Patches reviewed and recommended for inclusion in the next patch bundle as part of the COTS Alert Process. | TBD | ~~06/14/2002~~ 06/28/2002 | ~~07/31/2002~~ 08/14/2002 | ~~08/21/2002~~ 09/05/2002 | ~~09/04/2002~~ 09/18/2002 | 05/29/2002: Patch 4536 released for IRIX 6.5.14. Fixes Sev. 2 NCR. |
| Solaris 8 Patch upgrade | | | | None | TBD | TBD | TBD | TBD | 04/10/2002: Patch upgrade planned to bring Solaris 8 to current patch levels. Upgrade will also include bringing DRS and SAS hosts that had early delivery of Solaris 8 to baseline levels. |
| Insure ++ | 5.1 | 6.0 | End of Support | None | TBD | TBD | TBD | TBD | 06/26/2002: Version 6.0 for SGI is targeted for 8/2002 GA availability. |
| Purify | 5.3 | 2002a or later | NCR ECSed33929 Problems experienced with Solaris 8 0202 delivery and exception handling problems with 7.3.1.2 compilers on IRIX 6.5.14. | ECSed33929 | TBD | TBD | TBD | TBD | 06/26/2002: Purify for Solaris not currently required. Working issues for Purify 5.3 for SGI. Some problems noted after 6.5.14 upgrade. Working to identify if issue is Purify or SGI. Purify 2002a GA version received from Rational if upgrade is needed. |
| IMSL C Numeric Libraries | | | | None | TBD | TBD | TBD | TBD | 05/15/2002: Version 5.0 is the most current version planned. |

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|---|---|---|---|---|---|---|---|---|---|
| Exabyte Driver | 1.3 | TBD | Freeware product no longer maintained | None | TBD | TBD | TBD | TBD | 05/15/2002: Working to identify possible replacements. Reel Robot eliminated because product acquired by Legato who is not contining development on the product. |
| QFS | 3.5.0-41A | TBD | Expected End-of-life | None | TBD | TBD | TBD | TBD | |
| RDAC | 7.10.0G.00 | TBD | Expected End-of-life | None | TBD | TBD | TBD | TBD | |
| SANergy | 2.3.3 | TBD | Expected End-of-life | None | TBD | TBD | TBD | TBD | |
| Portus | 4.0 | 5.0 | End of bug fix support | None | TBD | TBD | TBD | TBD | 05/12/2002: E-Border Server upgrade may also be included. |
| XVT DSC | 5.1 | TBD | Extension Period | End of bug fix support | None | TBD | TBD | TBD | 05/12/2002: Custom code impact only |
| WhatsUp Gold | 7.x | 8.x | End of bug fix support | None | TBD | TBD | TBD | TBD | |
| Legato Networker | 6.0.2 | 6.1.1 or greater | End of support/Support for IRIX 6.5.14 | None | TBD | TBD | TBD | TBD | |
| RogueWave Libraries | Source Pro Edition 2 | Source Pro Edition 3 | | None | TBD | TBD | TBD | TBD | 05/12/2002: Upgrade to OpenClient 12.5 necessary for this upgrade. Custom code delivery only. No COTS PSR. |
| PopChart Image Server/Image Builder | | | | None | TBD | TBD | TBD | TBD | |
| JRE for IRIX & Solaris | 1.3.1/1.3.1_01 | 1.4 | End of support/Security recommendation | None | TBD | TBD | TBD | TBD | |

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|---|---|---|---|---|---|---|---|---|---|
| Oracle Enterprise & Developer Migration | | | | None | TBD | TBD | TBD | TBD | |
| Remedy Replacement of XRP-II | 3.1.3 | Remedy 4.5.2 | New version necessary for Solaris 8 | 29 NCRs | 12/03/2002 | 05/16/2003 | 06/09/2003 | 06/17/2003 | 01/23/2002: Development work not planned until after Oct. 2002. |
| XRP-replacement Report Writer | | | | None | 01/17/2003 Select Report Writer | 04/29/2003 | 06/10/2003 | 06/18/2003 | 01/23/2002: Development work not planned until after Oct. 2002. |
| Patches for Metadata Server COTS: SANergy, RDAC, QFS, etc | | | | None | TBD | TBD | TBD | TBD | |
| Sybase Open Client EBF | 12.0 | 12.0 EBF | Historical patterns have indicated that one or more EBF will be issued against ASE before end of contract. | None | ~~06/14/2002~~ 06/28/2002 | ~~09/27/2002~~ 10/11/2002 | ~~09/30/2002~~ 10/14/2002 | 10/20/2002 | 06/26/2002: Historical pattern indicates that an EBF upgrade will be needed for Open Client. |
| Sybase ASE 12.0/12.5 EBF | 12.0/12.5 | 12.0 EBF/12.5 EBF | | None | ~~06/14/2002~~ 06/28/2002 | ~~09/27/2002~~ 10/11/2002 | ~~09/30/2002~~ 10/14/2002 | ~~11/15/2002~~ 12/02/2002 | 11/28/2001: Historical pattern indicates that an EBF upgrade will be needed. |

# Appendix B. COTS Compatibility Matrix

*Table B-1. Future Software Upgrades Availability (1 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Acrobat Reader for PC | 5.0.5 | OPS | Freeware | | | |
| | | | | Acrobat Reader for PC | 5.0.5 | Current |
| Acrobat Reader for SGI | 4.05 | OPS | Freeware | | | |
| | | | | Acrobat Reader for SGI | 4.05 | Current |
| | | | | Acrobat Reader for SGI | 5.0.5 | No Availability Date |
| Acrobat Reader for Solaris | 4.05 | OPS | Freeware | | | |
| | | | | Acrobat Reader for Solaris | 4.05 | Current |
| | | | | Acrobat Reader for Solaris | 5.0.5 | Current |
| ACSLS | 6.0.1 | OPS | COTS | | | |
| | | | | ACSLS | 6.0.1 | Current |
| | | | | ACSLS | 6.0.1 PUT0201 | Current |
| | | | | ACSLS | 6.1 | 06/30/2002 |
| | | | | ACSLS | 6.1.1 | 12/31/2002 |
| | | | | ACSLS | 6.2 | 06/2003 |
| | | | | ACSLS | 6.2.1 | 12/2003 |
| AMASS | 5.2.1 | OPS | COTS | | | |
| | | | | AMASS | 5.2.1 | Current |
| | | | | AMASS | 5.3 | 08/01/2002 |
| | | | | AMASS | 5.3.x | 02/01/2003 |
| | | | | AMASS | 5.4 | 08/01/2003 |
| Anlpassword | 2.3 | OPS | Freeware | | | |
| | | | | Npassword | 2.05 | Current |
| | | | | Anlpassword | 2.3 | Current |
| ant | 1.4 | DEV | Freeware | | | |
| | | | | ant | 1.4 | Current |
| | | | | ant | 1.4.1 | Current |
| Apache Web Server | 1.3.22 | OPS | Freeware | | | |
| | | | | Apache Web Server | 1.3.22 | Current |
| | | | | Apache Web Server | 1.3.24 | Current |
| | | | | Apache Web Server | 1.3.26 | Current |
| | | | | Apache Web Server | 2.0.36 | Current |

## *Table B-1. Future Software Upgrades Availability (2 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| AutoSys Remote Agent for SGI | 3.5 | OPS | COTS | | | |
| | | | | AutoSys Remote Agent for SGI | 3.5 | Current |
| | | | | AutoSys Remote Agent for SGI | 4 | In beta as of 01/24/2002 |
| | | | | AutoSys Remote Agent for SGI | 6 | No Announced Availability Date |
| AutoSys Remote Agent for Sun | 3.5 | OPS | COTS | | | |
| | | | | AutoSys Remote Agent for Sun | 3.5 | Current |
| | | | | AutoSys Remote Agent for Sun | 4 | In beta as of 01/24/2002 |
| | | | | AutoSys Remote Agent for Sun | 6 | No Announced Availability Date |
| AutoSys Server | 3.5 | OPS | COTS | | | |
| | | | | AutoSys Server | 3.5 with patches for ASE 12.0 | Current |
| | | | | AutoSys Server | 4 | In beta as of 01/24/2002 |
| | | | | AutoSys Server | 6 | No Announced Availability Date |
| AutoSys Xpert | 3.5 | OPS | COTS | | | |
| | | | | AutoSys Xpert | 3.5 | Current |
| | | | | AutoSys Xpert | 4 | In beta as of 01/24/2002 |
| | | | | AutoSys Xpert | 6 | No Announced Availability Date |
| BuilderXcessory | 5.0.8 | DEV | COTS | | | |
| | | | | BuilderXcessory | 5.0.10 | Current |
| | | | | BuilderXcessory | 5.0.8 | Current |
| | | | | BuilderXcessory | 5.0.9 | Current |
| | | | | BuilderXcessory | 6 | Current |
| BuilderXcessory Epak/GraphPak | 3.0.4 | DEV | COTS | | | |
| | | | | BuilderXcessory Epak/GraphPak | 3.0.4 | Current |
| | | | | BuilderXcessory Epak/GraphPak | 3.0.5 | Current |

## *Table B-1. Future Software Upgrades Availability (3 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| ClearCase | 4.1 | OPS | COTS | | | |
| | | | | ClearCase | 4.1 | Current |
| | | | | ClearCase | 5.0 (2002.05) | Current |
| | | | | ClearCase | 5.1 | TBD |
| Crack | 5.0a | OPS | Freeware | | | |
| | | | | Crack | 5.0a | Current |
| DB Artisan | 4 | DEV | COTS | | | |
| | | | | DB Artisan | 6 | Current |
| DDTS | 4.7 | OPS | COTS | | | |
| | | | | DDTS | 4.7 | Current |
| | | | | DDTS | 4.8 | 12/2002 |
| e-Border Dev. Toolkit & Dymanic Libraries for IRIX | 1.4 | DEV | COTS | | | |
| | | | | e-Border Dev. Toolkit & Dynamic Libraries for IRIX | 1.4 | Current |
| e-Border Dev. Toolkit & Static Libraries for IRIX | 1.4 | DEV | COTS | | | |
| | | | | e-Border Dev. Toolkit & Static Libraries for IRIX | 1.4 | Current |
| e-Border Dev. Toolkit & Static Libraries for Solaris | 1.4 | DEV | COTS | | | |
| | | | | e-Border Dev. Toolkit & Static Libraries for Solaris 8 | 1.4 | Current |
| e-Border Enterprise Server | 3.5.0 | OPS | COTS | | | |
| | | | | e-Border Enterprise Server | 3.5.0 | Current |
| | | | | e-Border Enterprise Server | 4 | 10/31/2002 (late fall) |
| e-Border SGI Driver (Client) | 3.05 | OPS | COTS | | | |
| | | | | e-Border SGI Driver (Client) | 3.05 | Current |
| e-Border Sun Driver (Client) | 3.05 | DEV | COTS | | | |
| | | | | e-Border Sun Driver (Client) | 3.05 | Current |
| Exabyte Driver | 1.3 | OPS | Freeware | | | |
| | | | | Exabyte Driver | 1.3 | Current |
| | | | | Exabyte Driver Replacement | TBD | TBD |

## *Table B-1. Future Software Upgrades Availability (4 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| FIND_DDOS | 4.2 | OPS | Freeware | | | |
| | | | | FIND_DDOS | 4.2 | Current |
| FLEXlm | 8.0d | OPS | COTS | | | |
| | | | | FLEXlm | 8.0d | Current |
| | | | | FLEXlm | 8.1a | Current |
| Forcheck | 12.84 | OPS | COTS | | | |
| | | | | Forcheck | 12.84 | Current |
| | | | | Forcheck | 12.85 | Current |
| | | | | Forcheck | 13 | No Availability Date |
| Forte Compilers | 6.1 | OPS | COTS | | | |
| | | | | Forte | 6.1 | Current |
| | | | | Sun ONE Studio 7 Compiler Collection | 7 | Current |
| Forte for Java | 3.0 Community Edition | DEV | Freeware | | | |
| | | | | Forte for Java | 3.0 Community Edition | Current |
| Ghostscript | 6.5.2 | OPS | Freeware | | | |
| | | | | Ghostscript | 6.5.2 | Current |
| | | | | Ghostscript | 6.5.3 | Current |
| GhostView | 1.5 | OPS | Freeware | | | |
| | | | | GhostView | 1.5 | Current |
| HDF Libraries (series 4) | 4.1r5 | DEV | Freeware | | | |
| | | | | HDF Libraries (4 series) | 4.1r5 | Current |
| HDF Libraries (series 5) | 5-1.2.2 | OPS | Freeware | | | |
| | | | | HDF Libraries (5 series) | 5-1.2.2 | Current |
| | | | | HDF Libraries (5 series) | 5-1.4.3 | Current |
| IBM AIX for Firewall | 4.3.3 | OPS | COTS | | | |
| | | | | IBM AIX for Firewall | 4.3.3 | Current |
| | | | | IBM AIX for Firewall | 5.1 | Current |

*Table B-1. Future Software Upgrades Availability (5 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| IDL for PC | 5.5 | OPS | COTS | | | |
| | | | | IDL for PC | 5.5 | Current |
| | | | | IDL for PC | 5.6 | 4thQ (est.) Beta in Summer |
| | | | | IDL for PC | 5.7 | 12/01/2003 (est.) |
| IDL for UNIX | 5.5 | OPS | COTS | | | |
| | | | | IDL for UNIX | 5.5 | Current |
| | | | | IDL for UNIX | 5.6 | 9/2002 (est.) |
| | | | | IDL for UNIX | 5.7 | 12/01/2003 (est.) |
| IMSL CNL for DAAC IRIX | 3.01 | OPS | COTS | | | |
| | | | | IMSL CNL for IRIX (DAAC) | 3.01 | Current |
| | | | | IMSL CNL for IRIX (DAAC) | 5 | Current |
| IMSL F90 for DAAC IRIX | 4.01 | OPS | COTS | | | |
| | | | | IMSL F90 for IRIX (DAAC) | 4.01 | Current |
| | | | | IMSL F90 for IRIX (DAAC) | 5 | 10/2002 |
| Insure ++ | 5.1 | OPS | COTS | | | |
| | | | | Insure ++ | 5.1 | Current |
| | | | | Insure ++ | 6 | 08/2002 |
| Interdrive | 5 | OPS | COTS | | | |
| | | | | Interdrive | 5 | Current |
| | | | | Interdrive | 7 | Current |
| iPlanet Web Server | 6.0 Enterprise Edition | OPS | COTS | | | |
| | | | | iPlanet Web Server, Enterprise Edition | 6 | Current |
| | | | | iPlanet Web Server, Enterprise Edition | 6.0 SP2 | Current |

*Table B-1. Future Software Upgrades Availability (6 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| IRIX for DAACs | 6.5.14m | OPS | COTS | | | |
| | | | | IRIX | 6.5.14m | Current |
| | | | | IRIX | 6.5.15m | Current |
| | | | | IRIX | 6.5.16m | Current |
| | | | | IRIX | 6.5.17m | 07/17/2002 |
| | | | | IRIX | 6.5.18m | 10/17/2002 |
| | | | | IRIX | 6.5.19m | 01/17/2003 |
| | | | | IRIX | 6.5.20m | 04/17/2003 |
| | | | | IRIX | 6.5.21m | 07/17/2003 |
| | | | | IRIX | 6.5.22m | 10/17/2003 |
| | | | | IRIX | 6.6 | 12/31/2003 at earliest |
| JAF (JavaBeans Activation Framework) | 1.0.1 | OPS | Freeware | | | |
| | | | | JAF (JavaBeans Activation Framework) | 1.0.1 | Current |
| | | | | JAF (JavaBeans Activation Framework) | 1.0.2 | Early Access |
| Java SDK for SGI | 1.3.1 | DEV | Freeware | | | |
| | | | | Java SDK for SGI | 1.4.0 or later | TBD |
| Java SDK for Sun | 1.3.1_01 | DEV | Freeware | | | |
| | | | | Java SDK for Solaris | 1.3.1_01 | Current |
| | | | | Java SDK for Solaris | 1.4.0 or later | Current |
| JavaHelp | 1.0beta | DEV | Freeware | | | |
| | | | | JavaHelp | 1.0beta | Current |
| | | | | JavaHelp | 1.1.2_01 | Current |
| JavaMail API | 1.2 | OPS | Freeware | | | |
| | | | | JavaMail | 1.2 | Current |
| | | | | JavaMail | 1.3 | Early Access |

## *Table B-1. Future Software Upgrades Availability (7 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| JAXP for SGI | 1.0.1 | OPS | Freeware | | | |
| | | | | JAXP (Java API for XML-based RPC (JAX-RPC)) for SGI | 1.0 EA2 | Current for Sun |
| | | | | JAXP (Java API for XML Registries (JAXR)) for SGI | 1.0 EA2 | Current for Sun |
| | | | | JAXP for SGI | 1.0.1 | Current for Sun |
| | | | | JAXP (Java API for XML Messaging (JAXM) for SGI | 1.0.1 EA2 | Current for Sun |
| | | | | JAXP for SGI | 1.1 | Current for Sun |
| | | | | JAXP (JAVA API for XML Processing) for SGI | 1.2 EA2 | Current for Sun |
| jConnect for IRIX | 5.2 | OPS | Freeware | | | |
| | | | | jConnect for SGI | 5.2 | Current |
| | | | | jConnect for SGI | 5.5 EBF10106 | Current |
| jConnect for Solaris | 5.2 EBF9747 | OPS | Freeware | | | |
| | | | | jConnect for Solaris | 5.2 EBF 9747 | Current |
| | | | | jConnect for Solaris | 5.5 EBF10106 | Current |
| JDBC API | 2 | OPS | Freeware | | | |
| | | | | JDBC API for Solaris | 2 | Current |
| | | | | JDBC API for Solaris | 3 | Final Spec. Release |
| JDOM for SGI | 1.0beta7 | OPS | Freeware | | | |
| | | | | JDOM for Solaris | 1.0beta7 | Current |
| | | | | JDOM for SGI | 1.0beta7 | Current |
| JDOM for Solaris | 1.0beta7 | OPS | Freeware | | | |
| | | | | JDOM for Solaris | 1.0beta7 | Current |
| | | | | JDOM for Solaris | 1.0beta8 | Current |

## *Table B-1. Future Software Upgrades Availability (8 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| JetDirect for Sun | E.10.18 | OPS | Freeware | | | |
| | | | | JetDirect for Solaris | E.10.18 | Current |
| JNI C Controller for Fiber Channel Host Bus Adapter | 4 | OPS | COTS | | | |
| | | | | JNI C Controller for Fiber Channel | 4 | Current |
| | | | | JNI C Controller for Fiber Channel | TBD | TBD |
| Jprobe Server Side Suite | 3.0.1 | DEV | COTS | | | |
| | | | | Jprobe Server Side Suite | 2.8.1 | Current |
| | | | | Jprobe Server Side Suite | 3.0.1 | Current |
| | | | | Jprobe Server Side Suite | 4 | Current |
| JRE for IRIX | 1.3.1 | OPS | Freeware | | | |
| | | | | JRE for SGI | 1.3.1 | Current |
| JRE for Solaris | 1.3.1_01 | OPS | Freeware | | | |
| | | | | JRE for Sun | 1.3.1_01 | Current |
| | | | | JRE for Sun | 1.4 or later | Current |
| JRE plug-in for Sun | 1.3.1_01 | OPS | Freeware | | | |
| | | | | JRE Plug-in for Netscape Communicator | 1.3.1_01 | Current |
| | | | | JRE Plug-in for Netscape Communicator | 1.4 or later | Current |
| Legato Networker Client | 6.0.2 | OPS | COTS | | | |
| | | | | Legato Networker Client | 6.0.2 | Current |
| | | | | Legato Networker Client | 6.1.1 | Current |
| | | | | Legato Networker Client | 6.1.2 | Current for Windows |
| Legato Networker Server | 6.0.2 | OPS | COTS | | | |
| | | | | Legato Networker Server | 6.0.2 | Current |
| | | | | Legato Networker Server | 6.1.1 | Current |
| | | | | Legato Networker Server | 6.1.2 | Current for Windows |
| Linux for Security Workstations | 7.1.3 | OPS | COTS | | | |
| | | | | Linux for Security Workstations | 7.1.3 | Current |
| | | | | Linux for Security Workstations | 7.3 | Current |

## *Table B-1. Future Software Upgrades Availability (9 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Metadata Server COTS patches | TBD | OPS | COTS | | | |
| | | | | Metadata Server COTS patches | TBD | TBD |
| Microsoft Office Professional | Office97 | OPS | COTS | | | |
| | | | | Microsoft Office Professional | Win2000 | Current |
| | | | | Microsoft Office Professional | Win97 | Current |
| | | | | Microsoft Office Professional | XP | Current |
| MM | 1.1.3 | OPS | Freeware | | | |
| | | | | MM | 1.1.3 | Current |
| mod_ssl | 2.8.5-1.3.22 | OPS | Freeware | | | |
| | | | | mod_ssl | 2.8.5-1.3.22 | Current |
| | | | | mod_ssl | 2.8.8-1.3.24 | Current |
| | | | | mod_ssl | 2.8.9-1.3.26 | Current |
| NCDware | 5.1.140 | OPS | COTS | | | |
| | | | | NCDWare | 5.1.140 | Current |
| | | | | NCD software for new HW | New HW/SW | Current |
| Netscape Communicator | 4.78 | OPS | COTS | | | |
| | | | | Netscape Communicator | 4.78 | Current |
| | | | | Netscape Communicator | 6.2.2 | Current |
| | | | | Netscape Communicator | 7 | Preview version |
| NTP for SGI | 4.1 | OPS | Freeware | | | |
| | | | | NTP for SGI | 4.1 | Current |
| Open ssh | 29.p2 | DEV | Freeware | | | |
| | | | | Open ssh | 2.9p2 | Current |
| | | | | Open ssh | 3.4 | Current |
| OpenSSL | 0.9.6c | OPS | Freeware | | | |
| | | | | OpenSSL | 0.9.6c | Current |
| | | | | OpenSSL | 0.9.7 | Beta 2 |

*Table B-1. Future Software Upgrades Availability (10 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Oracle 8i Enterprise | 8.1.6 | OPS | COTS | | | |
| | | | | Oracle Server 8i | 8.1.6 | Current |
| | | | | Oracle Server 8i | 8.1.7.2 | Current |
| | | | | Oracle Server 8i | 8.1.7.3 | No release for SGI |
| | | | | Oracle Server 8i | 8.1.7.4 | Release for Sun/SGI TBD |
| | | | | Oracle Server 9i | 9.2.0.1 | Current for Solaris/N/A for SGI |
| Oracle Developer 2000 | 1.6.1 | OPS | COTS | | | |
| | | | | Oracle Developer | 1.6.1 | Current |
| | | | | Oracle Developer | 6i patch set 7 | Current |
| | | | | Oracle Developer | 9i | Current |
| PERL | 5.6.1 | OPS | Freeware | | | |
| | | | | PERL (O'Reilly) | 5.6.1 | Current |
| | | | | PERL (O'Reilly) | 5.7.3 | Beta |
| | | | | PERL | 6-003 | Beta |
| PopChart Image Server | 3.8 | OPS | COTS | | | |
| | | | | PopChart | 3.8 | Current |
| | | | | PopChart | 3.8.4 | Current |
| | | | | PopChart | 4 | Current |
| Portus | 4 | OPS | COTS | | | |
| | | | | Portus | 4 | Current |
| | | | | Portus | 5 | Current |
| | | | | Portus | 5.1 | 10/01/2002 |
| Purify | 5.3 | OPS | COTS | | | |
| | | | | Purify | 2002 | Current |
| | | | | Purify | 2002A | Current |
| | | | | Purify | 5.3 | Current |
| QFS | 3.5.0-41A | OPS | COTS | | | |
| | | | | QFS | 3.5.0-41A | Current |
| | | | | QFS | 4 | 05/2002 |
| Rational Rose C++ | 7.5 | DEV | COTS | | | |
| | | | | Rational Rose 2001a | 7.5 | Current |

## *Table B-1. Future Software Upgrades Availability (11 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| RDAC (Redundant Disk Array Controller) | 7.10.0G.00 | OPS | COTS | | | |
| | | | | RDAC (Redundant Disk Array Controller) | 7.10.0G.00 | Current |
| | | | | RDAC (Redundant Disk Array Controller) | TBD | TBD |
| Remedy ARS Client | 4.5.2 | OPS | COTS | | | |
| | | | | Remedy ARS Client | 4.5.1 User Tool/4.5.2 Admin Tool on NT | Current |
| | | | | Remedy ARS Client | 5.0.1 | Current |
| Remedy ARS Server | 4.5.2 | OPS | COTS | | | |
| | | | | Remedy ARS Server | 4.5.1 | Current |
| | | | | Remedy ARS Server | 4.5.2 | Current |
| | | | | Remedy ARS Server | 5.0.1 | Current |
| Rimage CD-R Data Production Server | 1.31 | OPS | COTS | | | |
| | | | | Rimage CD-R Production Server | 1.31 | Current |
| | | | | Rimage CD-R Production Server | Producer Suite 5.4.2.1 | Current |
| Rimage CD-R Data Publication Power Tools | 3.4.2 | OPS | COTS | | | |
| | | | | Rimage CD-R Data Publication Power Tools | 3.4.2 | Current |
| | | | | Rimage CD-R Data Publication Power Tools | Producer Suite 5.4.2.1 | Current |
| Rimage CD-Workstation | 3.34 | OPS | COTS | | | |
| | | | | Rimage CD-R Workstation | 3.34 | Current |
| | | | | Rimage CD-R Workstation | Producer Suite 5.4.2.1 | Current |
| Rimage Label Editor | 1.1.3j | OPS | COTS | | | |
| | | | | Rimage Label Editor | 1.1.3j | Current |
| | | | | Rimage Label Editor | Producer Suite 5.4.2.1 | Current |

## *Table B-1. Future Software Upgrades Availability (12 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Rimage Perfect Image CD Designer | 6.00b | OPS | COTS | | | |
| | | | | Rimage CD Designer | 6.00b | Current |
| | | | | Rimage CD Designer | Producer Suite 5.4.2.1 | Current |
| SANergy | 2.3.3 | OPS | COTS | | | |
| | | | | SANergy | 2.3.3 | Current |
| | | | | SANergy | TBD | TBD |
| sendmail | Solaris 8 02/02 bundled version | OPS | Freeware | | | |
| | | | | Sendmail (SAMS commercial version) | 1.2.2 | Current |
| | | | | Sendmail (SAMS commercial version) | 1.3 | 07/15/2002 |
| | | | | Sendmail | Solaris 8 02/02 bundled version | Current |
| SGI BDSpro | 2.1p0 | OPS | COTS | | | |
| | | | | SGI BDSpro | 2.1p0 | Current |
| | | | | SGI BDSpro | 2.3 | Current |
| | | | | SGI BDSpro | 2.4 | Current |
| | | | | SGI BDSpro | 2.5 | No announced availability date |
| SGI C Compiler | 7.3.1.2m | OPS | COTS | | | |
| | | | | SGI C Compiler | 7.3.1.2m | Current |
| | | | | SGI C Compiler | 7.3.1.3m | Current |
| | | | | SGI C Compiler | 7.4 | No announced availability date |
| SGI C++ Compiler | 7.3.1.2m | OPS | COTS | | | |
| | | | | SGI C++ Compiler | 7.3.1.2m | Current |
| | | | | SGI C++ Compiler | 7.3.1.3m | Current |
| | | | | SGI C++ Compiler | 7.4 | Beta |
| SGI Fortran 77 Compiler | 7.3.1.2m | OPS | COTS | | | |
| | | | | SGI Fortran 77 Compiler | 7.3.1.2m | Current |
| | | | | SGI Fortran 77 Compiler | 7.3.1.3m | Current |
| | | | | SGI Fortran 77 Compiler | 7.4 | Beta |

## *Table B-1. Future Software Upgrades Availability (13 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| SGI Fortran 90 Compiler | 7.3.1.2m | OPS | COTS | | | |
| | | | | SGI Fortran 90 Compiler | 7.3.1.2m | Current |
| | | | | SGI Fortran 90 Compiler | 7.3.1.3m | Current |
| | | | | SGI Fortran 90 Compiler | 7.4 | Beta |
| SGI HiPPI SW for Challenges | 3.3.1 | OPS | COTS | | | |
| | | | | SGI HiPPI SW for Challenges | 3.3.1 | Current |
| SGI HiPPI SW for Origins | 4 | OPS | COTS | | | |
| | | | | SGI HiPPI SW for Origins | 4 | Current |
| SGI IRISConsole | 2 | OPS | COTS | | | |
| | | | | SGI IRISConsole | 2 | Current |
| SGI ProDev Workshop | 2.8.1 | OPS | COTS | | | |
| | | | | SGI ProDev Workshop | 2.8.1 | Current |
| | | | | SGI ProDev Workshop | 2.9.1 | Current |
| SGI SCSI RAID Driver | 3.3 | OPS | COTS | | | |
| | | | | SGI SCSI RAID Driver | 3.3 | Current |
| SGI TPSSM7 RAID Software | 3 | OPS | COTS | | | |
| | | | | SGI TPSSM7 RAID Software | 3 | Current |
| | | | | SGI TPSSM7 RAID Software | 4 | Current |
| Solaris | 8 upd. 02/02 | OPS | COTS | | | |
| | | | | Solaris | 10 | 05/26/2004 est. |
| | | | | Solaris | 11 | 05/26/2006 est. |
| | | | | Solaris | 8 upd. 02/02 | Current |
| | | | | Solaris | 9 | Current |
| Solaris (for ACSLS) | 8 upd. 07/01 | OPS | COTS | | | |
| | | | | Solaris (ACSLS) | 8 update 07/01 | Current |
| Solaris 8 Patch Update | Sun Recommended Bundle + | OPS | COTS | | | |
| | | | | Solaris 8 Patch Upgrade | Sun Recommended Bundle + | TBD |

## *Table B-1. Future Software Upgrades Availability (14 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| SourcePro Core | 8.5.0 (Edition 2) | DEV | COTS | | | |
| | | | | SourcePro Core | 8.5.0 (Edition 2) | Current |
| | | | | SourcePro Core | 8.6.0 (Edition 3) | Current |
| SourcePro DB | 5.0.2 (Edition 2) | DEV | COTS | | | |
| | | | | SourcePro DB | 5.0.2 (Edition 2) | Current |
| | | | | SourcePro DB | 5.1.0 (Edition 3) | Current |
| SourcePro Net | 2.5.0 (Edition 2) | DEV | COTS | | | |
| | | | | SourcePro Net | 2.5.0 (Edition 2) | Current |
| | | | | SourcePro Net | 2.6.0 (Edition 3) | Current |
| SQR (BRIO report) | 4.3.4 | OPS | COTS | | | |
| | | | | Brio Report | 4.3.4 | Current |
| | | | | Brio Report | 6.2 | Current |
| SQS (Spatial Query Server) | 3.2.2 | OPS | COTS | | | |
| | | | | SQS (Spatial Query Server) | 3.4.2.4 | Current |
| | | | | SQS (Spatial Query Server) | 4 | 08/2002 (est.) |
| ssh secure shell commercial (PC) | 4 | OPS | COTS | | | |
| | | | | ssh secure shell commercial PC Level 1&2 | 4 | Current |
| | | | | ssh secure shell commercial PC Level 1&2 | 5.2 | Current |
| ssh secure shell commercial client | 2.4 | OPS | COTS | | | |
| | | | | ssh secure shell commercial client | 2.4 | Current |
| | | | | ssh secure shell commercial client | 3.1.0 | Current |

## *Table B-1. Future Software Upgrades Availability (15 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| ssh secure shell commercial server | 1.3.7 | OPS | COTS | | | |
| | | | | ssh secure shell commercial server | 1.3.11 | Current |
| | | | | ssh secure shell commercial server | 1.3.7 | Current |
| | | | | ssh secure shell commercial server | 3.1.0 | Current |
| STK 9940b APD | 2.1 | OPS | COTS | | | |
| | | | | STK 9940b APD | 2.1 | Current |
| STK SCSI RAID PROM | 1.73 | OPS | COTS | | | |
| | | | | STK SCSI RAID Prom | 1.73 | Current |
| Sybase ASE EBF | 11.9.2/11.9.3 | OPS | COTS | | | |
| | | | | Sybase ASE 12.5 EBF | 12.5 | TBD |
| Sybase ASE for SGI | 11.9.3 | OPS | COTS | | | |
| | | | | Sybase ASE for SGI | 11.9.3 | Current |
| | | | | Sybase ASE for SGI | 12.5EBF | Current |
| | | | | Sybase ASE for SGI | 15 | Est. 03/2004 |
| Sybase ASE for Sun | 11.9.2 | OPS | COTS | | | |
| | | | | Sybase ASE for Sun | 11.9.2 | Current |
| | | | | Sybase ASE for Sun | 12.5 | Current |
| | | | | Sybase ASE for Sun | 15 | Est. 12/2003 |
| Sybase ASE for Sun Autosys Server | 11.9.2 | OPS | COTS | | | |
| | | | | Sybase ASE for Sun (for Autosys Server) | 12 | Current |
| Sybase ASE SQL Server Monitor for SGI | 11.9.3 | OPS | COTS | | | |
| | | | | Sybase SQL Server Monitor for SGI | 11.9.3 | Current |
| | | | | Sybase SQL Server Monitor for SGI | 12.5 | Current |
| | | | | Sybase SQL Server Monitor for SGI | 15 | Est. 06/2004 |

## *Table B-1. Future Software Upgrades Availability (16 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Sybase ASE SQL Server Monitor for Sun | 11.9.2 | OPS | COTS | | | |
| | | | | Sybase SQL Server Monitor for Sun | 11.9.2 | Current |
| | | | | Sybase SQL Server Monitor for Sun | 12.5 | Current |
| | | | | Sybase SQL Server Monitor for Sun | 15 | 12/2003 |
| Sybase Central | 3.0.0 | OPS | COTS | | | |
| | | | | Sybase Central | 11.9.2 bundled version | Current |
| | | | | Sybase Central | 12.0.0 bundled version | Current |
| | | | | Sybase Central | 3 | Current |
| | | | | Sybase Central | 4.0 (ASE 12.5 bundled) | Current |
| Sybase Open Client EBF for SGI | 12.0 EBF9921 | OPS | COTS | | | |
| | | | | Sybase Open Client 12.0 EBF for SGI | 12.0 EBF9921 | Current |
| | | | | Sybase Open Client 12.0 EBF for SGI | 12.0 EBFxxxx | TBD |
| Sybase Open Client EBF for Sun | 12.0 EBF9917 | OPS | COTS | | | |
| | | | | Sybase Open Client 12.0 EBF for Sun | 12.0 EBF9917 | TBD |
| | | | | Sybase Open Client 12.0 EBF for Sun | 12.0 EBFxxxx | TBD |
| Sybase Open Client/C for SGI | 12.0 EBF9921 | OPS | COTS | | | |
| | | | | Sybase OpenClient/C for SGI | 12.0 EBF9921 | Current |
| | | | | Sybase OpenClient/C for SGI | 12.5 | Current |
| | | | | Sybase OpenClient/C for SGI | 15 | TBD |

## *Table B-1. Future Software Upgrades Availability (17 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Sybase Open Client/C for Sun | 12.0 EBF9917 | OPS | COTS | | | |
| | | | | Sybase OpenClient/C for Sun | 12.0 EBF9917 | Current |
| | | | | Sybase Open Client/C for Sun | 12.5 | Current |
| | | | | Sybase Open Client/C for Sun | 15 | Current |
| Sybase PowerDesigner App. Modeler | 7 | DEV | COTS | | | |
| | | | | Sybase PowerDesigner App Modeler | 9 | Current |
| Sybase PowerDesigner Data Architect | 7 | DEV | COTS | | | |
| | | | | Sybase PowerDesigner Data Architect | 9 | Current |
| Sybase PowerDesigner Metaworks | 7 | DEV | COTS | | | |
| | | | | Sybase PowerDesigner Metaworks | 9 | Current |
| Sybase PowerDesigner Process Analyst | 7 | DEV | COTS | | | |
| | | | | Sybase PowerDesigner Process Analyst | 9 | Current |
| Sybase Replication Server/Manager | 11.5.1 | OPS | COTS | | | |
| | | | | Sybase Replication Server/Manager | 11.5.1 | Current |
| | | | | Sybase Replication Server/Manager | 11.9.2 | Current |
| | | | | Sybase Replication Server/Manager | 11.9.3 | Current |
| | | | | Sybase Replication Server/Manager | 12 | Current |
| | | | | Sybase Replication Server/Manager | 12.1 | Current |
| | | | | Sybase Replication Server/Manager | 12.5 | Current |
| SYMplicity Storage Manager | 7.10.GG.02 | OPS | COTS | | | |
| | | | | SYMplicity Storage Manager | 7.10.GG.02 | Current |
| | | | | SANtricity Storage Manager | 8.00.G2.01 | TBD |

## *Table B-1. Future Software Upgrades Availability (18 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Synergy III COTS | n/a | OPS | COTS/Freeware | | | |
| | | | | Synergy III COTS | TBD | TBD |
| TCL/Tk | 8.3.3 | OPS | Freeware | | | |
| | | | | TCL/tk | 8.3.3 | Current |
| | | | | TCL/tk | 8.4.a4 | Current |
| TCPWrappers | 7.6 | OPS | Freeware | | | |
| | | | | TCP Wrappers | 7.6 | Current |
| Tivoli Client: Distributed Monitoring for SGI | 3.6.1 (tier2) | OPS | COTS | | | |
| | | | | Tivoli Client: Distributed Monitoring for SGI | 3.6.1 (Tier 2 for Tier 1 v3.6.2) | Current |
| | | | | Tivoli Client: Distributed Monitoring (Classic Edition) for SGI | 3.7 & patch 3 (Tier2) | Current |
| Tivoli Client: Distributed Monitoring for Solaris | 3.6.2 | OPS | COTS | | | |
| | | | | Tivoli Client: Distributed Monitoring for Solaris | 3.6.2 | Current |
| | | | | Tivoli Client: Distributed Monitoring for Solaris | 3.7 & patch 20 | Current |
| | | | | Tivoli Client: Distributed Monitoring (Advanced Edition) for Solaris | 4.1 | Current |
| Tivoli Client: Enterprise Console for SGI | 3.6.1 (tier 2) | OPS | COTS | | | |
| | | | | Tivoli Client: Enterprise Console for SGI | 3.6.1 (Tier 2 for Tier 1 v3.6.2) | Current |
| | | | | Tivoli Client: Enterprise Console for SGI | 3.7.1 patch 3.7.1-TEC-004E (Tier2) | Current |
| Tivoli Client: Enterprise Console for Solaris | 3.6.2 | OPS | COTS | | | |
| | | | | Tivoli Client: Enterprise Console for Solaris | 3.6.2 | Current |
| | | | | Tivoli Client: Enterprise Console for Solaris | 3.7.1 & patch 1 | Current |
| | | | | Tivoli Client: Enterprise Console for Solaris | 3.8 | No announced release date |

## *Table B-1. Future Software Upgrades Availability (19 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Tivoli Client: Management Framework for SGI | 3.6.1 (tier 2) | OPS | COTS | | | |
| | | | | Tivoli Client: Management Framework for SGI | 3.6.1 (Tier 2 for Tier 1 v3.6.3) | Current |
| | | | | Tivoli Client: Management Framework for SGI | 3.7 (Tier2 for Tier 1 v3.7.1) | Current |
| | | | | Tivoli Client: Management Framework for SGI | 3.7.1 (Tier 2) | Current |
| | | | | Tivoli Client: Management Framework for SGI | 3.7b (Tier 2) | Current |
| | | | | Tivoli Client: Management Framework for SGI | 3.8 (Tier 2) | No announced release date |
| Tivoli Client: Management Framework for Solaris | 3.6.3 | OPS | COTS | | | |
| | | | | Tivoli Client: Management Framework for Solaris | 3.6.3 | Currrent |
| | | | | Tivoli Client: Management Framework for Solaris | 3.7 | Currrent |
| | | | | Tivoli Client: Management Framework for Solaris | 3.7.1 | Current |
| | | | | Tivoli Client: Management Framework for SGI | 3.7.1 (Tier 2) | Current |
| | | | | Tivoli Client: Management Framework for Solaris | 3.7b | Currrent |
| | | | | Tivoli Client: Management Framework for SGI | 3.7b (Tier 2) | Current |
| | | | | Tivoli Client: Management Framework for SGI | 3.8 (Tier 2) | No announced release date |
| | | | | Tivoli Client: Management Framework for Solaris | 4.1 | 05/2002 |
| Tivoli Client: Software Distribution for SGI | 3.6.1 | OPS | COTS | | | |
| | | | | Tivoli Client: Software Distribution for SGI | 3.6.1 (Tier 2 for Tier 1 v3.6.2) | Current |
| | | | | Tivoli Client: Software Distribution for SGI | 4.1 tier 2 patches | Currrent |

## *Table B-1. Future Software Upgrades Availability (20 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Tivoli Client: Software Distribution for Solaris | 3.6.2 | OPS | COTS | | | |
| | | | | Tivoli Client: Software Distribution for Solaris | 3.6.2 | Currrent |
| | | | | Tivoli Client: Software Distribution for Solaris | 3.7 | Currrent |
| | | | | Tivoli Client: Software Distribution for Solaris | 3.7.1 | Currrent |
| | | | | Tivoli Client: Software Distribution for Solaris | 4 | Currrent |
| | | | | Tivoli Client: Software Distribution for Solaris | 4.1 & 4.1 Fixpack | Currrent |
| Tivoli Server: Distributed Monitoring | 3.6.2 | OPS | COTS | | | |
| | | | | Tivoli Server: Distributed Monitoring | 3.6.2 | Current |
| | | | | Tivoli Server: Distributed Monitoring (Classic Edition) | 3.7 & patch 20 | Current |
| | | | | Tivoli Server: Enterprise Console | 3.7.1 & patch 1 | Current |
| | | | | Tivoli Server: Distributed Monitoring (Advanced Edition) | 4.1 | Current |
| Tivoli Server: Enterprise Console | 3.6.2 | OPS | COTS | | | |
| | | | | Tivoli Server: Enterprise Console | 3.6.2 | Current |
| | | | | Tivoli Server: Enterprise Console | 3.7.1 & patch 1 | Current |
| | | | | Tivoli Server: Enterprise Console | 3.8 | No announced availability date |
| Tivoli Server: Management Framework | 3.6.3 | OPS | COTS | | | |
| | | | | Tivoli Server: Management Framework | 3.6.3 | Current |
| | | | | Tivoli Server: Management Framework | 3.7 | Current |
| | | | | Tivoli Server: Management Framework | 3.7.1 | Current |
| | | | | Tivoli Server: Management Framework | 3.7b | Current |
| | | | | Tivoli Server: Management Framework | 3.8 | 2Q2002 |

## *Table B -1. Future Software Upgrades Availability (21 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| Tivoli Server: Software Distribution | 3.6.2 | OPS | COTS | | | |
| | | | | Tivoli Server: Software Distribution | 3.6.2 | Current |
| | | | | Tivoli Server: Software Distribution | 3.7 | Current |
| | | | | Tivoli Server: Software Distribution | 3.7.1 | Current |
| | | | | Tivoli Server: Software Distribution | 4 | Current |
| | | | | Tivoli Server: Software Distribution | 4.1 | Current |
| Tomcat | 3.2.3 | OPS | Freeware | | | |
| | | | | Tomcat | 3.2.3 | Current |
| | | | | Tomcat | 3.3.1 | Current |
| | | | | Tomcat | 4.0.3 | Current |
| Top | 3.5beta12 | OPS | Freeware | | | |
| | | | | Top | 3.5beta12 | Beta |
| Tripwire for SGI | 1.3 | OPS | Freeware | | | |
| | | | | Tripwire for SGI | 1.3.0 | Current |
| | | | | Tripwire for Solaris/SGI | 1.3.1-1 | Current |
| | | | | Tripwire (commercial) | 2.4.2 | Current |
| Tripwire for Solaris | 1.3.1 | OPS | Freeware | | | |
| | | | | Tripwire for Solaris | 1.3.1 | Current |
| | | | | Tripwire for Solaris/SGI | 1.3.1-1 | Current |
| | | | | Tripwire (commercial) | 2.4.2 | Current |
| Velocity | 1.2 | OPS | COTS | | | |
| | | | | Velocity | 1.2 | Current |
| | | | | Velocity | 1.3 | Beta |
| Veritas Volume Manager | 3.0.4 | OPS | COTS | | | |
| | | | | Veritas Volume Manager | 3.0.4 | Current |
| | | | | Veritas Volume Manager | 3.2 | Current |
| | | | | Veritas Volume Manager | 4 | Beta as of 04/26/2002 |
| WebGLIS | 3.2.1 | OPS | Freeware | | | |
| | | | | Webglis | 3.2.1 | Current |

*Table B -1. Future Software Upgrades Availability (22 of 22)*

| Current Product | Cur. B/L ver. | Deploy. | SW Type | Future Software Product | Future Version | Availability Date |
|---|---|---|---|---|---|---|
| WhatsUp Gold | 7.03 | OPS | COTS | | | |
| | | | | WhatsUp Gold | 7.03 | Current |
| | | | | WhatsUp Gold | 8 | 12/31/2002 |
| Windows NT for PDS | 4.0SP5 | OPS | COTS | | | |
| | | | | Windows NT Workstation | 4.0SP5 | Current |
| | | | | Windows NT Workstation | 4SP6a | Current |
| WU-FTPD | 2.6.2 | OPS | Freeware | | | |
| | | | | WU-FTPD | 2.6.2 | Current |
| XRP Accell | 2.0.7.2.0 | OPS | COTS | | | |
| | | | | XRP Accell | 2.0.7.2.0 | Current |
| | | | | XRP Accell (ELS) | 6.5AC | Current |
| XRP-II | 3.1.3 | OPS | COTS | | | |
| | | | | XRP-II | 3.1.3 on Solaris 2.5.1 | Current |
| | | | | XRP-II | Remedy Replacement | To be developed |
| XVT DSC for Solaris | 5.1 | DEV | COTS | | | |
| | | | | XVT DSC for Solaris | 5.1 | Current |
| | | | | XVT DSC for Solaris | 5.5 | 07/31/2002 |